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AMERICAN NURSERYMAN

The Nurseryman's Forte: To Make America More Beautiful and Fruitful

JANUARY 15, 1943



Pieris Floribunda

**Buyers Active at Illinois Convention
Western Association Meets
Massachusetts Meeting at Boston
Nebraskans Meet at Lincoln**

Editorial

AFTER THE WAR.

Questions as to the prospects of the nursery business after the war may seem premature, but they come from nurserymen who, while operating at present under war handicaps as best they can, wish to make adjustments to meet the types of opportunity which will be presented when a happier time arrives. And if the economic planners in the political capitals of the world find it desirable to plan the peace now while the allied nations strive for victory, certainly the foresighted businessman should form some notion of what he will face.

Only a rash prophet would dare to deal with this subject in other than the most general terms, but it is possible to point out some of the influences which will affect our national life in general, and nurserymen's customers in particular, when war is succeeded by peace. Some of these have already been pointed out in business and financial periodicals.

First of all, the events of the past ten years have tended toward making the average homeowner free of debt. The refinancing of home mortgages by the HOLC was one step. The same effect was produced by FHA loans, whose terms required periodic reduction of the principal. The margin requirements imposed by the SEC curtailed greatly the extent to which one might go into debt with his stock broker in security transactions. The restrictions placed on credit accounts and installment purchases by the Treasury Department a few months ago further reduced outstanding obligations.

More recent developments in the same direction are the wartime restrictions on the public's purchase of automobiles, radios, electric refrigerators, washing machines and other durable products which most persons purchased on the installment plan. The fewer the things we can buy the more unexpended funds accumulate. So savings bank deposits increase; farm mortgages are being paid off; more insurance policies are bought. The average man has more cash than in many a day.

Now the process is being carried a step farther and each individual is encouraged to save in the form of war bonds. The new victory tax, indeed, looks forward to postwar

The Mirror of the Trade

credits under some circumstances. Enforced savings are talked about at Washington.

Obviously a larger purchasing power is being amassed at the same time that the supply of goods is being reduced. So long as one dangerous outcome of this situation—inflation—is avoided by government controls, savings are being built up to be spent after the war. In fact, recently the suggestion emanated from Washington that a system might be devised for advance payments on automobiles, radios and household equipment for purchase when they are manufactured again.

While this vast purchasing power is being built up, the average man, for lack of tires and gasoline or because of restrictions on vacation travel, turns more attention to his home. He may be putting the dwelling itself in better shape this winter so as to meet the fuel oil ration to heat it. His thoughts are being led to the grounds about it by the urge to cultivate a victory garden next summer. Surely he is going to be more interested in his property than ever before. He will experience, as well as read about, the advantages of trees. He will know more about shrubs and flowers, as well as vegetables.

The silk-shirt era that followed the earlier world war seems a slight indication of the spending that will follow the present period of strife. Meanwhile, if the war curtails nurserymen's sales somewhat, we should nourish and foster the public's appreciation of home grounds during this period, so that at its conclusion each homeowner will be, not only a buyer of automobiles, radios and washing machines, but a good and continuing customer of the nurseryman as well.

WITHHOLD VICTORY TAX.

This month nurserymen having eight employees or more, any of whom are subject to the social security tax, begin withholding five per cent victory tax on each pay roll.

Employees classified as agricultural labor will pay the victory tax, making a return March 15, 1944, on their 1943 income, at the same time as they render payment for the regular income tax. But nurserymen are not required to withhold the tax in the case of employees classified as agricultural labor.

But in order that such employees may not be faced with total payment

of an accumulated tax bill in 1944, some nurserymen have inquired about withholding an amount equivalent to the tax on a voluntary basis on the request of employees classified as agricultural labor. That will be a service to such employees, though it requires a little extra work on the part of the employer. Such extra work might be worth while as a basis of promoting good relations and being helpful to your employees.

There is no provision in the law for the voluntary withholding of the tax from agricultural employees, and if this is done it will not be subject to quarterly report and payment to the government. Money so collected should be treated as a voluntary savings account deposited by the employee with his employer and, of course, it is subject to withdrawal at any time upon the request of the employee.

As is well known, many large corporations encourage savings accounts with them in addition to providing other services for employees. It is a factor in maintaining closer relations, particularly valuable at a time when jobs elsewhere entice help away. In setting up a voluntary deduction plan, care should be exercised so that there is no confusion with the deduction of the victory tax from other employees, nor any liability incurred that is not intended.

DEAD LINE JANUARY 31.

All applications for corrections in certificates of war necessity must be in the hands of the Office of Defense Transportation by January 31. Nurserymen who are not satisfied with the mileage allowance granted them on their truck certificates should be sure to make application before that date, in accordance with the recommendations on page 16 of the January 1 issue.

ANY NEWS?

If you like to read the news notes about other firms in the field, nurserymen and their families, or members of their staffs, why not send in such items yourself?

There is special interest in the column about the boys "In the Country's Service." Can you contribute to it?

Such contributions are welcomed.

Editor.

AMERICAN NURSERYMAN

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CONVENTION TIME!

Reports of the many trade meetings in the next few weeks will make coming issues of

AMERICAN NURSERYMAN

read with additional interest by nurserymen throughout the country.

Advertising space will have extra value at no additional cost.

Send copy for February 1 issue now!

Buyers Active at Illinois Convention

The crowded lobby of the Hotel La Salle, Chicago, during the past week was indicative of the anticipated public demand for nursery stock next spring. The attendance at the convention of the Illinois State Nurserymen's Association exceeded that of all recent years, particularly of out-of-state visitors, a reflection of current trading. While the business of landscape planters and of some retailers is expected to suffer because of shortage of labor and unfavorable location in the season ahead, the catalogue firms look for a big year, and the wholesalers selling to syndicates, stores and mail-order houses are sought by the customers, instead of seeking them. These customers, finding other lines of merchandise dwindling in supply, look to nurserymen's merchandise as a popular and plentiful item to take on. Indeed, some lines of fruit trees and berry plants, are, with roses, short already.

Attendance was well over 100 at the opening session, Tuesday afternoon, January 12, and even larger the following day. The meeting was held in the Illinois room, where the exhibits have been placed in previous years, and the small parlors adjoining were a convenient lounge for nurserymen. The meeting room was decorated with cut evergreens, from local nurseries.

President Charles Fiore gave a short official address, calling attention to the importance of the roundtable discussion in connection with the A. A. N. regional meeting, especially helpful this year because the trade's problems are more complicated than in the past. He urged members to respect the request of the Secretary of Agriculture to grow more food, and he concluded with the recommendation that they buy more war bonds.

Elmer Palmgren then presented the treasurer's report, showing a general balance on hand of \$483.20 and in the special legal fund \$203.87.

At a special session for active members the following morning, it was voted to increase their dues from the flat rate of \$10 per member to a sliding scale of \$12.50, less than an acre; \$15, one to fourteen acres; \$17.50, fifteen to twenty-four acres; \$20, twenty-five to thirty-nine acres; \$22.50, forty to forty-nine acres; \$25, fifty to sixty acres; \$27.50, sixty-one

to seventy acres; \$30, seventy to ninety acres; \$32.50, ninety to ninety-nine acres, and \$35 on 100 acres or more. This schedule will about double the receipts annually from the seventy-five members.

A. A. N. Regional Meeting.

After the opening ceremonies, the meeting was turned over to Arthur H. Hill, who, as regional committeeman, presided over the annual conference of the central region of the American Association of Nurserymen. He introduced the officers of associations in the states embraced in the region who were present—



Arthur H. Hill.

Ohio, Michigan, Illinois, Indiana and Wisconsin—and also the members of the A. A. N. executive committee.

Frank S. LaBar, A. A. N. president, spoke briefly on the happier new year faced by nurserymen than that confronting businessmen in many other lines. After enumerating the phases of that outlook, he recommended consideration to the postwar program, which appeared a bright prospect.

Richard P. White, indefatigable executive secretary of the A. A. N., appeared never more hard-working than in covering the numerous topics in his discussion, "The Nurseryman's Wartime Problems," which included so much territory as to require additional time at the end of the following day's session. These topics included certificates of war necessity

and gasoline rationing, price control (which covers nurserymen and landscape men only in the one service of fertilizing plants on clients' premises), priorities, wage stabilization, victory tax, transportation outlook, man power prospects, victory garden program and incidental questions. He concluded with evidence of the essential character of the nursery industry in promoting the production of food through supplying fruit trees, berry plants and other items and through the supplying of camouflage material. The questions from the floor which he answered showed his thorough grasp of members' problems and indicated the full value which those within the national organization constantly receive through his office.

W. J. McLarney, mediation officer, central regional office of the War Labor Board, Chicago, spoke on "Wage and Salary Stabilization," outlining the necessities for the action taken in that regard in order to avoid the perils of inflation. He indicated the broad principles followed and referred members having wage problems to the local wage-hour division office.

Symposium on Supplies.

The second session, Wednesday afternoon, January 13, was featured by a symposium on nursery supplies. Introduction and treatment of miscellaneous items was by F. R. Kilner, editor of the American Nurseryman. He rapidly covered a number of items in brief summary.

Box lumber is scarce because of the demand for boxing ocean shipments to the army and navy and to our allies and also because of the ceiling placed on lumber, leading the mills to produce the more profitable grades of building lumber. Salvage of old boxes and reuse of any container possible were suggested, as well as the utilization of paperboard boxes when possible, for relief.

Shingle tow is scarce because it is being used as fuel by the mills and because of the shortage of man power in producing shingle timber; some substitutes are available in the tow from basket factories and the like.

Used burlap is extremely scarce on the Atlantic seaboard, where used onion sacks, of cotton or processed paper, are being purchased in quantity by nurserymen. In rural

areas to the west burlap sacks are more plentiful. Torn bags, chemical bags, squares of cottonette and also of processed paper material are obtained as makeshifts.

Raffia is short, because there is no Madagascar raffia being imported and because the Congo raffia is being received in about one-third the quantity of other seasons.

Farm machinery is limited in production by the WPB order of last October, placing an over-all limit of twenty per cent of the amount of new equipment built in 1940. The larger companies are cut in production more than the smaller firms, because the bigger ones are more completely in war work. Secretary of Agriculture Wickard is endeavoring to obtain an increase in the production of farm equipment for 1943. Meanwhile the Office of Price Administration has established maximum price controls for sales by dealers of used farm machinery of such types as tractors.

Sprayers are obtainable in much less numbers because the manufacturers are able to obtain limited supplies of materials only on priorities and with much patience.

Nurserymen can only obtain farm equipment if they have certificates, obtainable from their local rationing board. Repair parts have been supplied on orders through 1942, and the manufacturers are optimistic of their ability to serve nurserymen as well in the coming year if they anticipate their requirements in advance to offset production and transportation delays.

While steel wrap or bands for packing cases, or wire for that use, have been difficult to obtain, some nurserymen have been able to get supplies through priorities.

He called attention to the fact that office supplies of metal items, like pens, clips, pencil sharpeners, file fasteners and staplers, are becoming scarce, while further production will be limited.

Paper and Twine.

Paper and twine were discussed by J. A. Ronell, Eagle Wrapping Products Co., Chicago, who confessed that no substitutes for sisal twines were available, though products were obtainable that were higher in price and of less favorable characteristics. Processed paper twine is one product. Istal fiber may be available, but has twenty-five per cent less strength than sisal. Jute rope is the nearest that can be supplied to what was formerly purchased; paper rope is made, but

could not be recommended as safe for tree surgeons.

Kraft paper is easier in price and ample in supply. Waterproof paper is in demand as a substitute for burlap, but is still in demand by the government for wrapping munitions.

Fertilizers.

Fertilizers were covered by O. P. Fox, Swift Fertilizer Works, Hammond, Ind. He recalled that the sale of fertilizers containing inorganic nitrogen had been barred for noncommercial purposes, though their use in the nursery is not restricted. The substitute grades include a 4-12-4, permitted in all but



Richard P. White.

three states in the Union, so that Vigoro may still be sold. The 3-8-7 victory garden mixture, containing inorganic nitrogen, was expected to fill the bill until last week when the WPB issued an order forbidding the use of oilseed meals in such fertilizers. Unless some change is made, manure and bone meal will be the organic nitrogenous fertilizers to be used, though bone meal is becoming rather scarce. Of course, there is no restriction on either phosphate or potash mixtures.

If a nurseryman has any fertilizer on hand, this can be resold to customers or used on their premises in packages of any size less than 80-pound bags. Fertilizer in 100-pound bags from the nurseryman's stock can be used only on his own property or sold to commercial growers of nursery stock.

Insecticides and Fungicides.

Insecticides and fungicides were discussed by J. Carl Dawson, Dow Chemical Co., Midland, Mich., formerly Missouri state entomologist.

He indicated an adequate supply of dormant oil sprays, including the so-called DN, or dinitro dormant oil sprays.

The supply of arsenical insecticides, the foremost of which are lead arsenate, calcium arsenate and Paris green, will probably average ten or fifteen per cent below 1942, which is not so bad as it sounds, because abnormally large demands were experienced in 1942 on account of unusually heavy insect infestations. The supply of cryolite will probably be twenty-five or thirty per cent greater, and it is expected that this insecticide can be substituted in many instances for arsenate of lead. Pyrethrum and rotenone supplies will be extremely limited, but the supply of nicotine should be considerably greater.

Copper has been on the critical list for many months, and no doubt insecticides and fungicides containing copper compounds will be difficult to obtain. But there should be no difficulty in obtaining sulphur compounds, such as wettable sulphur, dry lime-sulphur, liquid lime-sulphur and sulphur dust.

There are no indications of a shortage of fumigants, including methyl bromide.

Containers and transportation problems may cause serious delays, and it is important that nurserymen buy from their regular sources of responsible supply early in order to be assured of their needs.

Man Power.

Col. Paul G. Armstrong, the director of selective service for the state of Illinois, gave a stirring talk on "Man Power, Its Relation to the War Effort." He outlined the operation of selective service and indicated its importance in view of the demand on the man power of the country for the war effort. He stated that the departure of workers from the farms could not be laid to the door of the selective service, since only one out of five such departures were on that account. Over three out of five were accounted for by the shift from agriculture to war industries voluntarily and nearly another one out of five by voluntary enlistment in the armed forces. He asserted that this was a war of the entire nation, to be waged by individuals from all groups and classes, and each should contribute its share.

Luncheon Session.

The final session, Thursday afternoon, January 14, began with a luncheon, followed by an address by Rabbi Charles E. Shulman, of

the North Shore Congregation Israel, Glencoe, Ill., on "Today's Challenge to American Life." His forceful oratory carried the message of his keen thinking, in which he brought out the necessity of the Americans of today considering the ideals which this country has held before the peoples of other lands and our responsibilities of leadership in the postwar era. Our everyday thinking is required to meet the issues ahead, rather than the fanciful dreaming which too many have associated with the big international problems of world relationship.

In a short concluding business session, Arthur Schroeder reported for the committee on dues, adding to the schedule of active membership fees the figure \$15 as the annual dues of associate members, beginning 1944.

William A. Beaudry, for the resolutions committee, offered a tribute to the memory of the late Guy A. Bryant, former president and the father of another former president and the current secretary, Miles A. Bryant. He likewise presented a stirring resolution calling upon the officers and members of the association to increase the roster of the organization so that it might be fully representative and most effective.

Election of Officers.

The report of the nominating committee, presented by William J. Smart, was adopted by unanimous vote. Arthur E. Schroeder, Des Plaines, was elected president, and Elmer Palmgren, Glenview, vice-president. Ernest Kruse, Wheeling, was elected treasurer, despite his plea to be released of further service after the years he has spent on the executive committee and as an officer of the association. Miles W. Bryant was reelected secretary.

Directors newly elected are Elmer Palmgren, Arthur E. Schroeder and William Hagen, Glenview. Hold-over directors are Richard B. Theidel, Hinsdale; A. H. Burger, Elgin; Charles Fiore, Prairie View, and A. H. Hill, Dundee.

Notes.

The executive committee of the American Association of Nurserymen held its midwinter session at Chicago, January 11 to 13, Executive Secretary R. P. White going over a strenuous agenda with the members, who were all present, as follows: Frank S. LaBar, Stroudsburg, Pa.; Richard H. Jones, Nashville, Tenn.; Arthur H. Hill, Dundee, Ill.; Bjarne Loss, Lake City, Minn.;

J. Frank Sneed, Oklahoma City, Okla.; John A. Armstrong, Ontario, Cal., and Edwin J. Stark, Louisiana, Mo.

The Association of Plant Patent Owners met at the Hotel La Salle, Chicago, January 11, discussing current patent problems. Officers elected were: President, Paul Stark, Louisiana, Mo.; vice-president, Charles H. Perkins, Newark, N. Y.; secretary-treasurer, Harry Robb, Chicago. Directors elected were J. A. Armstrong, Ontario, Cal.; J. J. Grullemans, Mentor, O.; Robert Pyle, West Grove, Pa.; Ralph O. Baur, Indianapolis, Ind., and Harry Woolley, Richmond, Ind.

Directors of All-America Rose Selections, Inc., met at Chicago,



Charles Fiore.

January 10, and discussed the trials and heard the report of W. Ray Hastings, executive secretary.

Col. James I. E. Ilgenfritz was on a furlough from camp, at Vichy, Mo., and greeted his wife and friends at the Hotel La Salle, Chicago, January 11.

John Fiore, son of the retiring president of the Illinois association, is returning from the Aleutian islands, Alaska, for four months' engineer training in camp at Las Vegas, Nev.

Robert Kruse, son of Ernest Kruse, past president of the Illinois association, is first lieutenant of field artillery at Camp Barclay, near Abilene, Tex., where the brother of Secretary Miles Bryant is in training in the medical corps.

Frank Cicala, Marquette Landscape Co., Oak Lawn, Ill., has two sons in the army, the oldest, 26, recovering from an operation in a hospital at Tacoma, Wash., and the

second, 22, in camp in South Carolina. The third son, 20, is about to be called.

Several visiting nurserymen attended the luncheon January 12 of the Men's Garden Club of Chicago, including F. A. Wiggins, Seattle, Wash., and Robert Pyle, West Grove, Pa., along with W. Ray Hastings, Harrisburg, Pa.; E. F. Huckstep, General Chemical Co., Chicago, and W. F. Price, Swift & Co., Chicago.

On the evening of January 12, a group journeyed to Highland Park to attend the meeting of the Men's Garden Club of that suburb. It included Frank S. LaBar, R. P. White, Howard N. Scarff, J. J. Grullemans, Robert Pyle, W. Ray Hastings, E. F. Huckstep and Milton Carleton. They were guests at a dinner for fourteen at the home of Jesse L. Straus. Eighty attended the club meeting.

Arthur Palmgren, former president of the Illinois Association of Nurserymen, returned last week to Fort Mead, Va., after a furlough to visit his parents, who are spending the winter in Florida. On return he expected to be transferred to a camp in Louisiana and be sent overseas. He is with the camouflage section of the engineers corps.

LANDSCAPE MEN CONFER.

Officers and directors of the National Landscape Nurserymen's Association held a meeting at the Hotel La Salle, Chicago, January 11, when they conferred with the A. A. N. executive committee with regard to the particular help that can be provided A. A. N. members of this type. The recent landscape letter sent to members from the Washington office met with unanimous approval, but Secretary Richard P. White felt the need of a better response of the landscape members in order to keep the contents of the letters of liveliest interest.

In their independent discussion subsequently, the landscape men formulated a plan whereby various members would be responsible for furnishing the material for subsequent news-letters, and a list of topics was made out of prime interest to members. Any further suggestions will be welcomed and may be directed to the president, W. A. Natorp, Cincinnati, O., or the secretary, Harold E. Hunziker, Niles, Mich.

Besides these officers, the meeting was attended by the vice-president, H. W. Endres, Clayton, Mo., and by two members of the execu-

tive committee, George Siebenthaler, Dayton, O., and Vernon Marshall, Arlington, Neb., as well as a few additional members.

SWAIN NELSON CHANGES.

Gustav Grundstrom, in charge of landscape work at the nursery of Swain Nelson & Sons Co., Glenview, Ill., this month becomes vice-president. The chairman of the board, Hubert Nelson, who visited his friends at the Illinois association meeting, is completing the company's first year in the manufacture of airplane parts as a contribution to the war effort, in the big building at the nursery. There are 145 employees working three shifts, seven days a week. President Gerald Nelson, a sergeant of marines, is now in the south Pacific somewhere lending his experience to camouflage work in the aviation engineers' construction of airports. The other members of the board are Carl M. Fuller, secretary, and W. R. Arrington, attorney. E. F. Price, formerly in charge of tree work, is now training for Red Cross work in Missouri. The company is entering its eighty-seventh year with optimism, reports Hubert Nelson. The real estate development is at present dormant.

NEW PLANT PATENTS.

New plant patents recently issued included the following, according to Rummler, Rummler & Davis, Chicago patent lawyers:

No. 559. Heliotrope plant. Quincy A. S. McKean, Frides Crossing, Mass. A new and distinct variety of heliotrope plant, characterized as to novelty by its vigorous, luxuriant growth, its unique deep flower color and the extra-large foliage with deep and heavy veinings and dark coloring.

No. 560. Plum. Andrew W. Mickmeyer, Grimsby Beach, Ont., Canada. A new and distinct variety of plum tree, characterized particularly by its vigorous growth and its fruit, characterized primarily by its early maturity, its excellent shipping qualities, due principally to its firmness of flesh and toughness of skin, and its deep red surface color when fully ripe, which surface becomes highly colored unusually early in its development.

No. 561. Chrysanthemum. Emil Prushek, Benton Harbor, Mich., assignor to the R. M. Kellogg Co., Three Rivers, Mich. A new and distinct variety of chrysanthemum, characterized as to novelty by its thrifty and vigorous growth and the unusual and unique variation in the colors of the blooms throughout its blooming period, creating the effect of opalescence.

No. 562. Kniphofia, or tritoma. John J. Gralle-mans, Painesville, O., assignor to the Wayside Gardens Co., Mentor, O. A variety of kniphofia, or tritoma, characterized primarily by the unusual color of the florets and general tonality of the flower spikes, and further characterized by the uniformity of its growth and of its flower spikes in a given location; its manner of blooming, and the size and number of flower spikes on a given plant.

No. 563. Kniphofia, or tritoma. John J. Gralle-mans, Painesville, O., assignor to the Wayside Gardens Co., Mentor, O. A variety of kniphofia, or tritoma, characterized by the small size and compactness of the plant, the extremely large number of small, flower-producing crowns; the grasslike, drooping appearance of the leaves; the uniformity of its growth and of its flower spikes in a given location; the brilliant and consistent unusual coloring of its flower spikes; its extreme floriferousness, and its ability to be forced.

L.C.L. FREIGHT SLOW.

Recent experiences of nurserymen reveal the slowness in the movement of small freight shipments because of the requirement of the Office of Defense Transportation that the railroads load cars to full capacity. Shipments across two states have taken three or four weeks in the case of small l.c.l. shipments, whereas full carloads arrived in three or four days. A New Jersey customer complained lately that a shipment of raspberry plants sent by freight took three weeks to cross the state of New Jersey and one-third of the plants were dead on arrival.

The reason for these delays is that the motor truck companies, as well



Miles W. Bryant.

as the railroads, hold boxes at transport points until they can fill up a truck or a freight car. While the carriers seek to give as good service as possible, the ODT rules and the heavy freight traffic cause delays of even perishable shipments.

Nurserymen should bear this fact strongly in mind in making shipments during the coming months. In some cases shipments should be made by express which formerly were forwarded by freight. Acquaint your customers with conditions, in order to avoid complaints and claims.

CROSS HAULING.

Government officials, it is reported, are now modifying their earlier ideas about cross-hauling elimination to the extent of assuring traffic executives that cross-hauling restrictions on nationally advertised consumer goods items are not likely. While

cross-hauling restrictions are still in the minds of ODT and WPB officials, it is at present believed that these will be limited to construction materials such as cement, sand, gravel and similar products.

SNOWBERRY GERMINATION.

For germination to take place in seeds of snowberry, *Symphoricarpos racemosus*, the outer hard surface coat must be partially destroyed prior to a period at low temperature to after-ripen the dormant embryo, is the finding of Florence Flemion published in the Contributions from Boyce Thompson Institute. This breakdown of the seed coat can be brought about by keeping the seeds in moist peat moss at 25 degrees centigrade for three to four months prior to the low temperature period. The results presented show that the addition of nitrogen compounds to the peat moss during the period at 25 degrees centigrade has a favorable effect on subsequent germination.

LESTER C. LOVETT, Little Silver, N. J., left for Florida January 12 for four weeks' stay. His son has been there for the past month.

THE son of C. W. M. Hess, Mountain View, N. J., who bears the same initials but is popularly called Hans, was inducted as an air cadet early this month.

TOM PEARSON, Grosse Pointe, Mich., is moving to New York city this month to work from the office there of the firm he has represented in Michigan, William M. Hunt & Co.

HAROLD PAUL, president of the Michigan Association of Nurserymen, left the employ of I. E. Ilgenfritz' Sons Co., Monroe, Mich., the first of the year to go into defense work.

WILLIAM G. MARTIN, formerly at Logan, O., has given up his landscape business for the duration and is at present employed by the Goodyear Aircraft Corp., at Cuyahoga Falls, O.

EUGENE MULLER, of the DeKalb Nurseries, Norristown, Pa., recently entered service and is now a private in Company D, 3d Platoon, 14th Training Battalion, U. S. Army, at Camp Wheeler, Ga.

THE foliage colors of woody plants from April to September are indicated in *Arnoldia*, the bulletin of the Arnold Arboretum, Jamaica Plain, Mass., from observations of plants in the arboretum by Dr. Donald Wyman.

Western Association Meets

Nearly the usual attendance was noted at the fifty-third annual convention of the Western Association of Nurserymen, held at the Hotel Muehlebach, Kansas City, Mo., January 6 and 7. The leading firms of the middle western states covered by the association were well represented, though visitors from more distant states were less numerous than in prewar years.

Election of officers followed the report of the nominating committee, as follows: President, J. Frank Sneed, Oklahoma City, Okla.; vice-president, Harold S. Crawford, Ottawa, Kan.; secretary-treasurer, C. C. Smith, Charles City, Ia. Elected to the executive committee were Frank Plumm, Shawnee, Kan., and S. R. McLane, Kansas City, Mo.

For the following year President Sneed appointed the following committees:

Program—C. A. Chandler, John Sarber, Frank Plumm.

Membership—Harold S. Crawford, Leo Conard, Robert Mollison, W. A. Weber, Henry Dybvig, Vernon Marshall, J. C. Baker, Jr.

Obituary—W. S. Griesa, Charles Nelson, C. C. Mayhew.

Elected to honorary membership, on the recommendation of the executive committee, were Richard P. White, Prof. George A. Dean, Dr. H. B. Hungerford and Dr. W. F. Pickett.

The next convention was set for January 4 to 6, 1944, at Kansas City.

Opening Session.

Nearly sixty attended the opening session, Wednesday morning, January 6. After each person introduced himself, in lieu of roll call, three new members were admitted, two of whom were later presented, Homer Welch, J. C. Welch Nurseries, Shenandoah, Ia., and Peter Stuhr, Nebraska Nurseries, Inc., Lincoln, Neb., the third, Forest Nursery Co., McMinnville, Tenn., having no representative present.

Secretary-treasurer C. C. Smith read full minutes of last year's meeting and showed a financial balance of \$737.72, compared to last year's \$926.97, income from dues being \$435. Out of \$600 appropriated for the A. A. N. convention last July, \$412.52 was returned on the unexpended portion. Harold S. Crawford later made a report of convention finances, indicating that receipts from registration fees and exhibition space

of \$2,234.25 covered all but the difference in the foregoing figures, the individual contributions from A. A. N. members in region 4 having been returned intact.

C. A. Chandler delivered the formal address of welcome, in which he referred to the difficulties of the past year as only the nurserymen's share in winning the war and predicted spring would bring all the orders they could fill.

Charles A. Scott, who had preferred not to call his remarks a president's address, read some observa-



J. Frank Sneed.

tions that fully merited the term, as will be noted from the excerpts printed on another page.

Phomopsis Blight.

The control of phomopsis blight in cedar seedbeds was reported by C. M. Slagg, of the United States Department of Agriculture. He explained two years' tests and observations at Manhattan, Kan., with accompanying colored slides. In Kansas this blight appears about June 1. First evidence is a graying of the foliage tips, which is followed by complete browning and death of the seedling in as little time as twenty-four hours. It attacks the new growth, appearing on larger specimens as well as on seedlings. The loss of twenty per cent in seedbeds was reduced to seven per cent by roguing about midseason (July 22), while this procedure plus spraying reduced losses to two per cent. Spraying without roguing was little more effective than roguing without

spraying. In order of effectiveness were organic mercury, organic iron and Bordeaux mixture. Applications were necessary at intervals of from seven to ten days to be sure to cover the new growth as it appeared. Variations in weather and rainfall affected the spraying schedule. The numerous questions from the floor showed widespread interest of the members in this blight.

The afternoon session opened with a talk on "Federal Credits of Possible Interest to Nurserymen," by P. L. Gaddis, of the Farm Credit Administration, Kansas City. He outlined the procedure of the production credit associations, of which there are 500 in the country, and of the federal land banks, which make long-term loans of conservative mortgage character or of the "commissioner loan" type through national farm credit associations. Mr. Gaddis also explained the program of the United States Department of Agriculture for increasing food production in 1943.

Panel Discussion.

"Adjusting Our Selling to War-time Conditions" was the subject of a panel discussion by nurserymen. The catalogue business, said Paul Wilkinson, Shenandoah, Ia., is tailor-made for war conditions and the nurseryman in that field is already in the driver's seat. As a part of the food-production campaign, emphasis the coming spring should be on such quick-bearing small fruits as strawberries and raspberries and on garden items like rhubarb and asparagus. At the same time, he said, ornamentals should not be overlooked, because the sales of these the past autumn had been twenty-five per cent higher than previously, in the case of his firm, the Henry Field Seed & Nursery Co. He emphasized the necessity of nurserymen's giving attention to their costs because he had found that his firm's autumn sales, though but one-third in number of the spring orders, cost as much to handle. It is important in the mail-order business, he added, that good merchandise be supplied and that orders be handled well.

With reference to the landscape business, Harold Parnham, Des Moines, Ia., gave some grounds for optimism in reporting the opinions of prominent individuals in other fields of business to the effect that an easier labor market might be ex-

perienced in spring, because a number of firms in various lines would go out of business for lack of merchandise to sell, because the draft of teen-age boys would lighten the call for older men and because the provision of camps, equipment and supplies for the army had been pretty well caught up. His report of the experiences of eastern landscape firms under gasoline rationing was not encouraging. Home sales were off. Success in handling business by telephone and mail was fair. Landscape orders were as many as could be handled with the labor available. Loads and delivery must be planned to make the most of the mileage allowed. Sales areas must be restricted and one's immediate locality more thoroughly covered.

David Lake, Shenandoah Nurseries, Shenandoah, Ia., speaking for the wholesalers, said they found it necessary to keep on as usual and to give special attention to taking care of regular customers to their best ability. This was somewhat difficult because salesmen's automobile mileage had been cut to one-fourth that covered previously. He thought it important to maintain service and retain good will. Under current conditions he thought it would be difficult to pass on the increased costs on most items, even though it seemed almost a business necessity to do so.

On the latter point, Chet G. Marshall rose to remark that he believed retailers should make an effort to get better prices from the public so that it would be possible to relieve to some extent the burden of absorbing the higher costs of labor and supplies.

Essential Industry.

The address of Richard P. White, executive secretary of the American Association of Nurserymen, was outstanding for its delineation of the essential character of the nursery industry in the present critical period. The quantities of trees and shrubs being provided for camouflage are larger as the projects for protective concealment along the coast areas of the country advance. Nurserymen must supply most of this material, as a vital war necessity, and their essential place in defense activity is recognized by the War Department. The importance of nursery production is recognized by the government in permitting the sale of fertilizers containing inorganic nitrogen to the trade, while restricting or denying allowances to others. Other bureaus of the government recognize the essential service of the industry as a source of productive farm material,

such as fruit trees, small fruits and the like. Further developments might add to the evidence of the nurseryman's essential place at this time, and the support of the Department of Agriculture in various activities, particularly the victory garden program, was a most favorable factor.

Dr. White dwelt at length on the victory tax, making it plain that agricultural labor was not exempt from the tax itself, although employers of agricultural labor were exempt from the necessity of withholding the tax on wages paid.

Red Cedar Scales.

At the Friday morning session, Prof. George A. Dean, Kansas State College, Manhattan, reported on the control of three red cedar scales, on one of which nothing had previously been published. The red cedar scale, *Cryptaspidotus shasta*, resembles San José scale, but is half as large. It has been known in California, Utah and Kansas since 1913 or 1914, but not in western Kansas, though the drought years made it prominent in the eastern part of the state. The young scales are bright yellow in color and about one sixty-fourth inch long. This scale is not prolific. The control is by spraying with nicotine sulphate, one-half pint to fifty gallons of water, with the addition of one quart of winter or summer oil. The time for spraying is May 28 to June 2 at Manhattan, Kan., followed by similar sprayings subsequently a month apart through the summer.

The European fruit leaf scale, *Lecanium corni*, or *fletcheri*, is found on red cedar and arborvitae. It is controlled by a one and one-half to two per cent oil spray in the spring before new growth starts. Professor Dean also recommended the nicotine sulphate spray.

The red cedar mealy bug, *Pseudococcus juniperi*, had been reported at the federal bureau of entomology at Washington, D. C., only once before its receipt from Kansas in 1941. It has become a serious pest in some parts of the state the past two or three years. The same spray was recommended as for the red cedar scales. Professor Dean advised against using the oil spray unless one could employ a power sprayer with 400 pounds' pressure. The droplets running down from the various portions of the implicated leaves might otherwise gather to cause burning. A light film of oil is all that is needed.

Lloyd Moffet added the precaution not to use an oil spray soon after dusting with sulphur for red spider.

Frank Plumm reported killing red spider on junipers with one spray-

ing of Sulphacide, a liquid preparation used for the same pest in greenhouses.

Herbert L. Miller, from the state OPA office, discussed mileage rationing with a view to obtaining a better understanding of the reasons for limiting gasoline and tires. He said individual cases deserve and would have attention, but that no promise of greater leniency could be held out.

The session concluded with committee reports, the secretary reading the resolutions prepared by William J. Smart, A. J. Bruce and George Holsinger and the obituary report of the committee headed by Charles Williams. Harold Crawford reported that he and George Chandler, as the auditing committee, found the treasurer's books in order. The report of the nominating committee, consisting of Vernon Marshall, Ross Minnich and George Welch, was approved. Thereupon the newly elected president, J. Frank Sneed, was called to the chair and some wag in the audience requested the appearance beside him of Harold S. Crawford, who reaches slightly above the shoulders of Oklahoma City's favorite son.

Retailers' Meeting.

Preceding the convention was held a short session of retail nurserymen, Tuesday afternoon, January 5, when E. H. Smith, Harrison Nursery Co., York, Neb., conducted an informal discussion of current conditions, calling on representatives from several states for their views.

Chet G. Marshall, Arlington, Neb., reported help scarce, but sales not hard to make. He thought the outlook promising, particularly for fruit trees, as farmers' crops had been good and soil moisture better than for several years. Peter Stuh, Nebraska Nurseries, Inc., Lincoln, supported the statement, saying there was plenty of money in the public's hands to buy nursery stock.

Henry Dybvig, Colton, S. D., asserted it was difficult to predict what was ahead for the trade because of the problems of digging and delivery.

A. J. Bruce, Des Moines Nursery Co., Des Moines, Ia., said that in spite of difficulties, sales were almost up to those of last year, averaging better per agent. Fall business had been good and would have been better if more help could have been obtained. He thought the local sales outlook favorable because of the presence of war industries.

Charles Williams, Kansas City, reported a good demand for landscape work because folks were kept at home. He was not pessimistic, though the help problem was par-

ticularly acute in his field. He believed nurserymen were ready to tighten their belts for a year as well worth the price to be sure of doing business in a free country later, for their sacrifice was small compared to that of the boys on Guadalcanal and elsewhere. The long-term view was quite favorable, he declared, because of the mounting housing shortage.

Orville Moffet, Kelsey Nurseries, St. Joseph, Mo., told of the difficulty of organizing landscape crews, in which he had obtained help from the local federal employment office. Landscape work was holding up well, as there was less competition from other lines of business. He thought price schedules should be given constant attention because of mounting costs.

J. A. Woodard, Neosho Nurseries Co., Neosho, Mo., thought that landscape orders were of smaller size because they were only for home gardens and that the spring demand would be for perennials, small shrubs and some fruit trees.

Leo Conard, Stigler, Okla., said his wholesale orders seemed of two types, large ones reflecting buying for government contracts and small ones reflecting orders for home planting. Gasoline rationing and the labor situation were adverse factors.

George Holsinger, Rosedale, Kan., stated the weather had been as much a handicap as the labor shortage the past autumn.

Ralph Ricklefs, Kansas Landscape & Nursery Co., Salina, Kan., told personal experiences arising from the necessity of providing living quarters on account of the air base near by. Otherwise conditions had been favorable, no floods occurring. The question was not making sales, but getting work done, he said.

Jim Parker, Tecumseh, Okla., declared the men he had trained for nursery help turned out to be carpenters when building a cantonment offered high wages for hammer and saw wielders.

On the subject of transportation the chairman asked a report from Richard P. White, who said the limitations of the certificates of war necessity affected the operation of private trucks, that motor carriers' operations would probably be curtailed somewhat by tire shortage, but that the railway freight outlook was still favorable.

Chet G. Marshall reported his firm had employed women the past autumn to strip trees and in grading, with the expectation of using more of them in spring. This prospect was shared by others.

The half-dozen agency firms represented held a brief conference at the close of the session.

Notes.

Flowers for the meeting room and gardenia corsages for the ladies at the banquet were with the compliments of the Chandler Landscape & Floral Co., Kansas City.

The sole exhibitor was the Muskogee Greenhouse Co., Muskogee, Okla., of lining-out evergreens brought by the proprietor, Emil Bresser.

Lieut. W. C. Bruening was a visitor in uniform. His brother, Croft Bruening, continues active in the Bruening Nurseries, Higginsville,



Harold S. Crawford.

Mo., and as vice-president of the Missouri State Nurserymen's Association.

The speaker at the annual banquet was David L. MacFarlane, Emporia, Kan., introduced by President Scott as "Scotty" MacFarlane, who lived up to the appellation by entertaining the audience with many quips and jokes about his former countrymen and then inspiringly talked on the theme of Americanism.

Henry C. Chase was obliged regretfully to omit the winter sojourn at "Blue Heaven," Fort Lauderdale, Fla., sharing the responsibility of the Chase Nursery Co., Chase, Ala., with his nephew, Henry Homer Chase, while Lieut. Joseph Falt continues in service, now as navy executive officer at Key West, Fla., where his family is at present residing with him.

Jack Sneed, son of the new Western association president, was home a few days last month after preliminary training and joined the naval preflight school at Athens, Ga., December 19.

MISSOURI MEETING.

Ten members of the Missouri State Nurserymen's Association met January 7, at Kansas City, to transact business briefly. Everett Asjes, Jr., acted as secretary in the rare absence of William A. Weber. Officers were reelected, including Edwin A. Chandler, president, and Croft Bruening, vice-president.

E. A. Weston and William A. Weber are holdover delegates to the A. A. N. convention and Edwin J. Stark was elected to the third place.

The financial balance was reported as \$198.71, a gain of about \$20 over last year.

Orville Moffet was appointed chairman of a committee to help secure an adequate appropriation from the state legislature for the state entomologist's office, after the meeting heard from the matter by J. A. Denning.

KANSAS MEETINGS.

The Kansas Association of Nurserymen held a business meeting at the Hotel Muehlebach, Kansas City, January 6. The victory garden program was discussed. President John Sarber outlined the wishes of the extension division of the state agricultural college, which is especially interested in having nurserymen encourage the planting of quick-bearing fruits, such as peaches, plums, certain kinds of pears and all kinds of berries. The association voted to support the victory garden program in every way possible.

There was some discussion about forthcoming appropriations for the entomological commission. Recent legislatures have cut down appropriations so that the inspection service has been seriously hampered. Nurserymen have always done their best to get appropriations through, but since inspection in the state benefits not only nurserymen, but also farmers, fruit growers and beekeepers, the feeling was that they should give aid, as well as nurserymen. Charles Scott, McPherson, Kan., chairman of the legislative committee, was instructed to call on J. C. Mohler, state secretary of agriculture, to discuss this matter.

In recognition of long and faithful service in the interest of the nurserymen of Kansas, Dr. H. B. Hungerford and Prof. George A. Dean, state entomologists; Dr. William F. Pickett, head of the department of horticulture at Kansas State College, and Richard P. White, secretary of the American Association of Nurserymen, were elected to honorary membership in the Kansas association.

The new officers are: President, W. S. Griesa, Mount Hope Nurseries,

Lawrence; vice-president, Charles Williams, Williams & Harvey Nursery Co., Kansas City; secretary-treasurer, Frank Pflumm, Shawnee Nursery, Shawnee.

The Kansas chapter of the American Association of Nurserymen held

a brief meeting, January 6. According to custom, the officers elected corresponded to those elected by the Kansas association: President, W. S. Griesa; secretary, Frank Pflumm. Elected as delegate was W. S. Griesa and as alternate, H. S. Crawford.

Organic Fertilizers

In the past few years only from ten to twelve per cent of all the nitrogen used in the fertilizer industry in this country came from natural organic sources. In 1941, for instance, only 51,410 tons of nitrogen out of a total of 451,308 tons came from natural organic products. Recently, however, a widespread interest in the possibilities of various natural organic materials has arisen as a result of the fact that the War Production Board has restricted the use of chemical nitrogen for fertilizer.

With the assistance of A. L. Mehring, of the United States Department of Agriculture, the United States Golf Association green section compiled a table including many of the most widely available natural organic sources of nitrogen. The approximate average analyses are listed. It should be remembered that the natural products vary sometimes in their mineral composition over a wide range. For instance, dried blood may vary in nitrogen content from a minimum analysis of six per cent to a maximum analysis of fourteen per cent. The bone meals vary from seven-tenths per cent of nitrogen to five and three-tenths per cent and from seventeen per cent of phosphoric acid to thirty per cent. However, the figures in the table will serve to give an idea of what can be expected on an average in the way of plant foods from these materials.

These materials are in one form or another by-products of living things. No one product is produced in all sections of the country. Therefore there is included in the table a column which gives the section of the country where each material is chiefly produced. These are not the only sections of the country in which these materials are produced, but where the largest amounts are produced.

In considering the possibility of using organic fertilizers on large turfed areas, another question which arises is their commercial availability. Estimates are available as to the quantities of these materials used as fertilizers in 1941. A table is

therefore included in which related materials are grouped together and a figure given which indicates in round numbers the amounts which were sold for fertilizer purposes in 1941.

Organic Material	Approximate Tonnage Used as Fertilizer in 1941
Cottonseed meal	145,000
Other seed meals	7,500
Activated sewage sludge	120,000
Bone meal	37,500
Dried blood	8,300
Animal tankage	50,000
Process tankage	100,000
Fish scrap	44,500
Dried animal manures	16,700
Castor pomace	82,000
Cocoa by-products	36,000

Generally speaking, the oilseed meals seem to offer the most promising supply of nitrogen fertilizer. Because of the increased demand for the oils it has been estimated that there will be from one to one and a half million tons more of the four leading oilseed meals—peanut, linseed, cottonseed and soybean meals—than ever before. It is also estimated that one million tons of these excess meals will be used for feed purposes, leaving approximately 500,000 tons for fertilizer over and above the tonnage which has been used in the past for fertilizers. However, since the supply of chemical nitrogen is short, fertilizer manufacturers will probably use more natural organic materials in making commercial mixtures.

Blood, animal tankage and bone meal are all possible sources of organic fertilizers for turf purposes, the former two being particularly good nitrogen sources. However, in the past relatively large amounts of these materials used in this country have been imported from South American countries, Australia, New Zealand, Canada and Cuba. Since these importations are likely to be greatly reduced, these materials may not be so readily available on the market except in areas near large abattoirs.

Such materials as dried blood, fish scrap and animal tankage are also required for feed purposes; so the supply of these materials for direct fertilizer use may be reduced except where local supplies are available. So far as dried activated sludge is concerned, there are four commercial products on the market. Milorganite is the product manufactured by the Milwaukee Sewerage Commission and commonly used on many of the golf courses and lawns in all parts of the country. Chicagrow is manufactured in Chicago; Hu-Actinite, in Houston, Tex., and Nitrogonic in Pasadena, Cal.

THE L. A. Reynolds Nurseries, Winston-Salem, N. C., are closing for the duration because of the draft, gasoline restrictions and labor shortages.

PAUL B. STRAYER, who graduated last month from Pennsylvania State College, is now working for the Andorra Nurseries, Inc., Chestnut Hill, Philadelphia, Pa.

TO keep the outside men employed until spring, Corliss Bros., Inc., Gloucester, Mass., has a logging operation under way, which is keeping Cliff Corliss busy.

Organic Material	Approximate Average Analysis			Chief Production Area
	Nitrogen Per cent	Phosphoric acid Per cent	Potash Per cent	
Cottonseed meal	6.5	2.3	1.8	South
Soybean meal	7.0	1.5	2.5	Midwest
Linseed meal	6.0	1.8	1.5	Northwest
Peanut meal	7.0	1.5	1.2	South
Milorganite	6.0	2.5	.....*	Midwest
Chicagrow	5.0	3.0	.....	Midwest
Hu-Actinite	5.0	2.8	.....	South central
Nitrogonic	6.0	2.5	.....	California
Raw bone	4.0	22.0	.....	Midwest
Steamed bone	2.5	27.0	.....	Midwest
Dried blood	12.0	2.0	.....	Midwest
Animal tankage	8.0	10.0	.....	Midwest
Process tankage	9.0	.....	.....	East
Fish scrap	9.0	7.0	.....	All coasts
Dried poultry manure	5.0	2.5	1.3	Atlantic coast
Dried sheep manure	2.0	1.5	3.0	Atlantic coast
Dried cattle manure	2.0	1.5	2.5	Atlantic coast
Castor pomace	5.5	2.5	1.0	East
Cocoa shells	2.5	1.5	2.5	East

*Less than 1 per cent is not considered appreciable and is indicated by

The Nurserymen's Obligations

By Charles A. Scott

We as nurserymen are today facing conditions vastly different from the conditions that have confronted us at any time during the twenty-five years that I have been privileged to attend these annual meetings.

As I now recall the annual meetings of this association, we were always confronted with some problems of uncertainty. We have always managed to solve the problems, perhaps not to our own satisfaction, but in such a way that we as individuals and as an association have managed to stay in business. I cannot offer a solution for all the complicated handicaps that confront us today. To a large degree these are matters that each of us must handle to the best of his ability as they come up for solution from day to day.

Matters of common interest can and will be handled by our association with help of our national secretary, Richard P. White.

Regardless of the handicaps, financial hardships and gloom that may be prevalent at this season of the year, I have never yet seen the time that we have not sold more trees, shrubs and plants in April than we anticipated we would in January, and I predict that we shall sell more stock in March and April of this year than we now anticipate. We may have to work longer hours on account of a shortage of helpers, but, at that, possibly not so long hours as our soldiers are spending in the front ranks.

There are a lot of things that we can find fault about, but if we will spend as much time and energy in something constructive as we do in grumbling, we shall accomplish more lasting results.

I have observed that a nurseryman must anticipate his customers' demand from one year to ten or more years in advance. If he guesses correctly and has a good assortment of salable stock on hand when the demand is good, he is regarded as a man of wonderful foresight or, in more common parlance, "a wise old owl". If he is caught with a lot of oversize, non-salable stock on hand, it is just too bad. He is considered a man of poor judgment, shortsighted and a misfit in the industry.

If a nursery is so unfortunate as to be caught in the path of a cyclone, a flood, a hailstorm or a horde of grasshoppers, or all four of these calamities, it is a case of financial ruination with little hope of recovery

for the owner. The results of many years of hard work may be a complete loss that the grower or no one else could foresee or prevent, except possibly in the case of a flood, in which case the grower was willing to take a chance. On the other hand, if we nurserymen are so fortunate as to make a few dollars over and above operating expenses, we are required to share our remaining balance with both our state and national government. Hence, there is little hope of a nurseryman's ever becoming rich.

I am a nurseryman by choice of occupation rather than by mere accident. As a boy, I read every nursery cata-



Charles A. Scott.

logue from cover to cover that ever came into our home. I wrote to nurseries advertising free catalogues, hoping to find additional information in them.

Some of the nursery firms whose catalogues I read fifty years ago are still in existence and from all appearance are doing a greater volume of business now than at that time. This fact leads me to the conclusion that "the nursery that serves best serves longest".

The propagation and growing of plants, shrubs and trees has always been a source of pleasure to me. Through the nursery catalogues that I read as a boy I became acquainted with the names and cultural requirements of many flowers, shrubs and trees long before ever I saw them. In after years my success in growing trees gave me a thrill, and I set my

heart upon being a nurseryman. Were I again choosing a vocation, I am satisfied in my own mind I would be a nurseryman. It is a field that offers a wonderful opportunity of service. I quote from no less an authority than Thomas A. Edison, who wrote, "Of all human pursuits I hold that nurseryman and plant breeder stands the highest."

If you have not read "The World Was My Garden," by David G. Fairchild, for many years chief of the bureau of plant introduction of the United States Department of Agriculture, let me recommend it to you as a great source of information and inspiration. It will expand your vision of the opportunities open to a nurseryman and instill in one a pride in the work one is doing.

I have faith in the nursery industry because of the future before it. It is an industry that contributes to the beautification and happiness of everyone in every home in our nation. Every plant that produces a flower, or shrub or tree that produces fruit or shelters us from the inclemency of the weather, with few exceptions, had its origin in a nursery or is propagated and distributed by nurseries.

The nursery industry is a growing industry in a double sense of the word. With the increase in population and the advance in civilization, the demand for our output will increase from year to year. This was true in European countries before the present war and will be in America after the return of peaceful pursuits.

It is encouraging to note that General Smuts, of South Africa, predicts 1943 will see the European war brought to a satisfactory conclusion. Let us hope his predictions are well founded.

Another encouraging forecast from the nurseryman's standpoint is the prediction of the National Resources Planning Board. In a study of the home construction outlook after the war, the board said, "The nation will need from 900,000 to 1,200,000 new houses each year for the next decade following the conflict. The demand for the bulk of these homes will be on the farms, in small towns and non-metropolitan cities as well as in metropolitan areas."

The owners of these homes are all potential customers for nursery stock of some kind.

[Continued on page 24.]

Massachusetts Meeting

The thirty-fourth annual meeting of the Massachusetts Nurserymen's Association was held at the Hotel Kenmore, Boston, January 5. Only fourteen firms answered present at the roll call, but during the morning many others appeared, and fifty persons sat down for the annual luncheon.

The secretary's report was approved as read, and the treasurer's report was referred to the auditing committee, consisting of James McManmon, W. K. Corliss and Floyd Oatman.

President W. H. Thurlow, in his excellent message, spoke of the trend of the times and the conditions under which we must expect to operate this year. He stressed the importance of our having faith in the future and directing our policies to weather the storm.

It was moved by Marinus Van der Pol that \$250 be taken from the treasury and put into war bonds. This was unanimously voted.

There was a warm discussion on the question of a standard guarantee. After many had expressed their views a committee consisting of Donald D. Wyman, Milford Lawrence and John Allanach was appointed to report back at the afternoon session with recommendations.

Prof. Ray M. Koon introduced Dr. C. J. Gilcut, professor of nursery culture at the Waltham field station. Dr. Gilcut told how the nurserymen benefit from the department of nursery culture and how the department of nursery culture benefits each individual nurseryman. He stressed the necessity of our cooperating committee's working closely with the department.

Howard Russell, secretary of the Massachusetts Farm Bureau, in his usual instructive and interesting talk, pointed out many details we must face. He mentioned the desirability of our deducting the five per cent victory tax in order to help out the employees, although it is not mandatory for the employer of agricultural labor to do this. He emphasized the necessity of our getting repair parts now. There will probably be enough insecticides, but none to throw away. Fertilizers are being standardized, and only limited brands will be available. The fuel situation is now good, and it looks as though coal will be rationed, as well as oil, before another season. He emphasized the desirability of every nursery's growing some vegetables. He felt that people would still want nursery stock, even though they



CLIFF CORLISS.

Cliff Corliss, born at Gloucester, Mass., in 1901, has lived there all his life. The eldest of four sons, he inherits his horticultural bent from his father, the late William D. Corliss. After going through the public schools in his home town, he attended a business college at Salem, Mass. As a boy he worked with his father in the forestry and landscape business, gaining experience along those lines. After finishing his business training, he became an automobile salesman and later was manager of the concern, one of the largest in the county.

During that time he was instrumental in helping to establish the nursery department of Corliss Bros., Inc., at Gloucester, in connection with the forestry, landscape and florists' departments. When his father became incapacitated by ill health, he joined the organization founded by his father and uncle, Howard F. Corliss, taking charge of the landscape and nursery departments. After the passing of his father, two years later, he became general manager of the corporation.

He married Martha E. Ernst and has one son, Cliff, Jr., 17 years old, who will probably follow in his father's footsteps.

Cliff's hobby is of the active sort, horseback riding, and he is a great lover of fine draft horses. He has written many articles on new perennials for magazines and newspapers. He is a life member of the Tyrian lodge of Free Masons at Gloucester. He has been long a trustee of the Essex County Agricultural Society, a member of the flower show committee of the Topsfield fair for several years, on the board of directors of the Massachusetts Farm Bureau and on various committees of the New England and Massachusetts Nurserymen's Associations. He was vice-president of the latter organization in 1942 and was elected president January 5, 1943.

Associated with him in business are his uncle, Howard F. Corliss, who is manager of the florists' department, and two brothers, Howard R. Corliss, superintendent of the landscape department, and William K. Corliss, superintendent of the Gloucester nurseries. His mother, Mrs. William D. Corliss, president of the corporation, is inactive in the conduct of the business.

are working six and seven days a week.

After luncheon, Acting Commissioner Lewis Webster gave an interesting talk on the status of agriculture in general in Massachusetts in relation to the other states. This area has been asked to increase as much as possible its crops of protective foods, consisting of all fruits, carrots, potatoes, fresh tomatoes and a few others.

Dr. Donald Wyman, of the Arnold Arboretum, showed some thought-producing war pictures.

The nominating committee reported the following slate for 1943: President, Clifford Corliss; vice-president, Seth L. Kelsey; secretary-treasurer, Lloyd A. Hathaway; executive committee, George Fellows, Edmund Mezzitt, Marinus Van der Pol.

The secretary was instructed to cast one ballot for the slate.

Mr. Corliss, then introduced, in a brief talk stressed the importance of our working for the time when the war will be over and business would probably have a tremendous upsurge.

The committee on the guarantee then reported and moved for adoption the following proposed guarantee:

"Provided account is paid within thirty days or in accordance with pre-arranged terms of payment, we will replace free of charge any plants planted by us that die within thirty days, or we will replace at one-half original price of plants, plus cost of planting, plants planted by us in the spring that fail to survive the following summer, or if planted in the fall, fail to leaf out the following spring.

"This guarantee will not apply to plants whose condition obviously was due to neglect."

After a great deal of discussion it was moved that, in view of the short notice, this question be referred to the executive committee with instructions to report at the Springfield meeting.

It was also voted that the executive committee consider the adoption of a fair trade committee.

L. A. Hathaway, Sec'y.

The Gloucester nursery, at which a mail-order and wholesale perennial business is done, is well known for its plant introductions, and the Ipswich nursery, established in 1939, where all the nursery stock is grown, for its beautiful show grounds.

Having worked extensively on them, he originated several well known varieties such as Viola Giant Jersey Gem, Chrysanthemum Sunny Boy, Shasta Daisy Admiral Byrd and Campanulas Bluettes and Blue Gardenia, as well as introducing the summer-flowering chrysanthemums. The firm has other new plants that show great promise. A bedding petunia, Glamour Girl, developed at this nursery, has become well known for its long blooming period, exquisite color and adaptability as a standard.

Nebraskans Meet at Lincoln

Icy roads and a drop to near-zero temperature did not prevent the usual attendance at the annual meeting of the Nebraska Association of Nurserymen, at the Cornhusker hotel, Lincoln, January 8, because all but the local members traveled by train. In the absence of the president, O. L. Erickson, the chair was occupied by Vice-president Jennings B. Haggerty, Lincoln, who was elected president for the ensuing year. Russell Davidson, Davidson Nursery Co., Hastings, was elected vice-president and Harvey Williams, Lincoln, was reelected secretary-treasurer.

The conference scheduled for the evening of January 7 was prevented by the 3-hour delay in the arrival of the train bringing members and guests from Kansas City. So business was briefly transacted at the opening of the morning session January 8. Upon the suggestion of Chet G. Marshall, it was voted to hold next year's meeting at Omaha, January 6 and 7, and invite the Iowa Nurserymen's Association to hold its midwinter meeting jointly, so that the A. A. N. executive secretary, Richard P. White, could meet with both groups without the necessity of making an extra trip from Washington. The time and place of the summer field day, if it is held, were left to the executive committee. The secretary-treasurer's report showed a comfortable balance of \$151.38 and it was voted to buy another war bond of \$50.

The special committee appointed last year to revise the fruit variety list to be publicized by the extension horticulturist in the victory garden program reported that such action was taken by the members, Vernon Marshall, George Marshall and Lloyd A. Moffet, though no printed copies of the list had yet been made available.

Discussion of the uniform guarantee of nursery stock recommended by the Pennsylvania Nurserymen's Association led to the adoption of a motion by Lloyd A. Moffet that a committee of five be appointed to circularize the nurserymen of the state on this subject and report at the next meeting.

The panel discussion on the business outlook was opened by Lloyd A. Moffet, Plumfield Nurseries, Fremont. Speaking from the wholesaler's point of view, he said that mounting costs, now as much as forty per cent over a year ago, require economy in operation, minimizing the use of labor, tightening credit to avoid losses and planting with more accurate view to

future markets. His firm maintains a 5-year record to determine which varieties are in demand and which are passing from popularity and should be replanted in smaller numbers. He thought that retailers had an exceptional opportunity in the present situation, if they could find means to meet the strong public demand. He thought probable a shortage of cherries, plums and small fruits, apricots already being virtually off the market.

A. Williamsen, Harrison Nurseries, York, presented a pessimistic view for the retail nurserymen operating through agents. Contact with the public is curtailed now that agents have left in considerable numbers for military service or war jobs and travel by automobile is greatly restricted. On the other hand, he said, the public has plenty of money and farm income is up, so that customers can buy. But this might not be sufficient in the farmer's case, if he were short of help to plant trees and preferred to devote all his time to immediate income crops.

For the mail-order nurserymen, Donald Moffet, Mount Arbor Nurseries, Shenandoah, Ia., pinch-hitting for Paul Wilkinson, Henry Field Seed Co., Shenandoah, explained most interestingly the way in which stock was reserved for the account of various mail-order houses on the basis of color illustration and price in the catalogues and on the basis of orders as they were booked in the progress of the season. The outlook for this branch of the business is exceptionally favorable, as perennials, small fruits, light shrubs and trees will undoubtedly be moved in great quantities through this channel.

At luncheon, thirty-eight were served, including about a dozen guests from the staff of the University of Nebraska, the nursery inspection service and the like. These were introduced by the master of ceremonies, Chet G. Marshall.

National affairs pertaining to the nursery business were discussed by Dr. White, along the lines of his lengthy talk at the Kansas City meeting. He touched on the essential place of the nursery industry in the wartime economy, current government restrictions affecting the trade and the problems raised by the imposition of the victory tax.

New outlets for our stock was the subject of a short paper read by William J. Smart, the popular and much-traveled representative of the D. Hill Nursery Co., Dundee, Ill.,

as it appears in an adjacent column.

Speaking on the topic "Summary of the Situation," F. R. Kilner, editor of the American Nurseryman, called attention to two favorable factors, the ample public buying power and the adequate supply of nursery merchandise. Unfavorable factors are the shortage of labor and the mileage rationing, that affect contact with customers and delivery of stock. The ingenuity of nurserymen to overcome these disadvantages is already apparent, some firms developing a mail-order business for the first time, others establishing city sales outlets and all finding short cuts of one kind or another. In this situation, he recommended that the good will of the customer be retained, even if service cannot be given him as heretofore. That good will will be desired again after the war, when the pent-up purchasing power enforced by almost compulsory savings now will put tremendous force behind the garden interest promoted by the victory garden program and developed while the public is kept at home.

L. M. Gates, state entomologist, closed the meeting with a short report on the recent meeting and present activities of the National Plant Board.

Notes.

The Nebraska A. A. N. chapter held a short meeting to elect these officers: Chairman, J. Ernst Reusch, Lincoln; vice-president, Guy A. Brown, Geneva Nurseries, Geneva; secretary-treasurer, Harvey Williams, Williams Nurseries, Lincoln. L. A. Moffet, Plumfield Nurseries, Fremont, holds over as delegate, and H. W. Stuhr, Nebraska Nurseries, Inc., Lincoln, as alternate.

Robert Campbell, who has closed up his landscape service at Lincoln for the duration, appeared in his new ensign's uniform. He is now reporting for sea duty after four months' training at Annapolis and four months in the Diesel engine school at State College, Pa.

Jennings Haggerty, Lincoln, is now busy on a government contract gathering walnut wood for rifle stocks. There are many old big walnut trees in his section of the state.

Harold W. Glissmann lost to the service so many of his employees in the Valley View Lawn Service, Omaha, that its operation is suspended for the duration, while he has charge of maintenance on the 17,000-acre grounds of the Mead ordnance works

near that city. Just before Christmas he moved into his new home, at 2134 South Sixty-first street.

J. Ernst Reusch recently completed his ten months' work as site planner at the Mead ordnance works and hopes to render further service in like capacity elsewhere.

STORING EVERGREENS.

The question whether small specimen evergreens might be dug in autumn and stored over winter for early planting in spring, or to save the time in digging them then, was raised at the meeting of the Nebraska Association of Nurserymen and brought some interesting information from Vernon Marshall as to the practices followed at Marshall's Nurseries, Arlington, Neb. On several occasions a few hundred evergreens have been dug, balled and burlapped, and then placed in a storage house on a dirt floor, with shingle tow packed about the balls. The floors are dampened and the shingle tow is wet down in order to provide necessary moisture. It was said that not only did the evergreens pass through the winter successfully, but that the foliage was of better color in spring than that of stock in the field. Almost all species of junipers had been found quite satisfactory, though pines, spruces and firs did not do so well.

Sometimes the burlap at the base of the ball needs to be replaced in the spring because it has rotted where the ball was in direct contact with the dirt floor.

It was suggested by others that balled evergreens could probably be safely stored outdoors with shingle tow or excelsior packed about the balls to retain moisture, if protection from wind and bright sun were provided.

These suggestions may be of particular help to landscape firms short of labor, as evergreens might be dug and balled when time was available, to relieve pressure in spring.

M. L. AXELROD, of Goldblatt Bros., Chicago, Ill., states this chain of department stores will open complete florists' and nursery departments at eleven locations in the Chicago area. Cut flowers and plants have been stocked for several years in the Loop store in Chicago and the branch in Hammond, managed by Fred Wolfram. The additions will include shrubs, outdoor roses and planting stock, flower and vegetable seeds, accessories, etc. Outdoor selling stations will be set up in spring.

New Outlets for Stock

By W. J. Smart

Under the present world outlook it is difficult for any businessmen, including nurserymen, to see the problems in their true perspective and to plan their future. It is easy to become discouraged and to curtail operation. There are certain fundamental facts of which we are reasonably certain. We know that the recorded history of the world leaves us a record of more than 800 wars. If the world has lived through this much turmoil, may we not expect to last for one more?

We know that wars affect different businesses in different ways. Some businesses are stimulated by abnormal demand for their products; other businesses suffer, and some must close for lack of materials. Nurserymen are in a peculiar position in this respect. There is no restriction on a nursery's continuation in business. We are allowed to continue our operations and to make plans for the future as we see fit. This is a vitally important advantage which we as nurserymen enjoy, in contrast to a great majority of businesses.

Following the war, from indications already with us, there will be a great many changes in products. New products will take the place of old established ones in some instances. New methods of manufacture and new materials will have a vital bearing on the future of many business concerns, but I think it is certain that there can be no substitute for trees. Following this war, countless numbers of homes will be built. We know that American pride in the home is one of our national characteristics, something that we can definitely count upon in planning our future. We know also that some firms in the nursery business will sell nursery stock after this war. Naturally, those who have the foresight and the courage to carry on their normal planting routine will benefit in the future.

So far as the immediate outlook for nursery stock is concerned, I feel it is reasonable to expect a prosperous spring. When we have, on the one hand, a tremendous increase in income among nearly all classes of people with, on the other hand, a sharply reduced available supply of manufactured goods, it should work to the benefit of such products as are

popular with homeowners and available in the markets.

Nursery products find their way to consumers through various means, as we all know. Sales which are made directly by salesmen will probably suffer least from the present upset conditions. Mail-order nurserymen should experience a normal or increased demand for their products.

Firms which depend upon landscape work for their main livelihood will suffer, not so much from a lack of business as a shortage of labor. There is not much to be done about a condition of this kind. If no labor is available at all, the amount of business which can be done will be greatly reduced. However, in almost every community there are a certain number of persons who are not employable in other industries who can be used in nursery work. Elderly men as well as schoolboys may furnish the extra badly needed assistance.

Those nurserymen who depend upon cash-and-carry trade driving to their nurseries will need to make some changes to keep up their sales. With automobile travel reduced to a minimum, people are not going to flock to nurseries located some distance from town. To offset this lack of patronage at the nursery, it may be necessary to develop outlets for nursery stock in the residential sections of your own community. If a number of nurseries are growing various specialties adjacent to a large city, it might be possible for them to operate a sales outlet cooperatively. In this type of selling it is important to build the store or sales yard close to the residential section. There may be filling stations now closed which would be available for a short period, stores in outlying sections in residential areas or some other type of business which may welcome some additional line of merchandise to their store.

Everyone, I think, will agree that nursery stock is not difficult to sell this year. The main problem is to get the merchandise to the customer. No doubt, there will be some ingenious plans worked out, particularly by retail nurseries which are depending upon this type of outlet. They will need to make some arrangements to offset the lack of customers' driving to their places of business.

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— BURLAP —

GAUGE PICKING TIME.

Gauging the time to pick fruit by the number of days elapsed between full bloom and maturity rather than by calendar date, as is frequently done, is recommended by Dr. H. B. Tukey, horticulturist at the New York state experiment station, as being far more reliable and enabling the fruit grower to plan orchard operations more efficiently.

Based on a study of sixty-one varieties of apples, fifteen varieties of pears, forty-six varieties of cherries and fourteen varieties of peaches growing on the station grounds over a period of years, Dr. Tukey finds that each variety has a remarkably constant interval in days between full bloom in the spring and full maturity in the summer or fall. "The Early McIntosh apple, for example, usually ripens at Geneva about ninety days after full bloom," he says. "Even this season, which is an 'early' season, this variety required ninety to ninety-one days to reach maturity. Oldenburg has been found to require ninety-eight days; McIntosh, 127 days; Rhode Island Greening, 135 days; Montmorency cherry, sixty-two days; Bartlett pear, 121 days; Elberta peach, 128 days, and so on."

The earliness or lateness of the season does not appear to affect

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greatly the more or less fixed interval of days between full bloom and maturity, which might well be compared with the gestation period in animals. The records show that for a given region even in extremely early seasons as well as in late seasons the interval will vary only a few days.

"Of course, the time of actual harvest depends upon a number of practical considerations, and picking habits vary in different regions," says Dr. Tukey, citing such things as market demand, color of fruit, distance from market, availability of storage facilities, windstorms, sudden periods of high or low temperatures, fruit drop and the like. But these factors do not alter the fact that a definite time period prevails between full bloom and maturity, he con-

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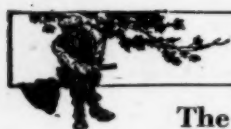
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cludes, adding that fruit growers might well keep records of blooming and maturity dates for the different fruits in their own orchards so as to work out fairly accurate guides which would aid greatly in planning orchard operations.



Charlie Chestnut

The Adventures of Little Julius



Lately I have been thinking about the different things which is wrong with the nursery business, and what a person could go to work and do about it. I had a idea which I wrote to the Wash D.C. fund, but I didnt hear nothing so I am going to bring it right to the members themselves. What we need in the nursery business is a advertising campaign. What I have got in mind aint the mill-run kind of advertising, which starts out, You should plant gooseberries because etc, and fix up your yard otherwise the neighbors will think nobody lives where you are at. That kind of stuff is old stuff. We should go directly to the people with a radio program all the way from coast to coast and in between also. I know some of the members is going to say right away I am out for a percent. Let me tell you I aint expecting no percent. However, if the members sees fit to pay me for my ideas, that aint the same as a percent, the way I see it. If they want to give me a bonus or a present of some kind, I will leave it up to the members.

Now the big thing is to get a program that will keep the people awake, and which will tie it up with the nursery business at the same time. First we have got to have a theme song. I have thought up the words—that is the words just come to me sort of in a jumble, and I aint had time to sort em out yet, as follows:

Apples and Spruce
And Orange Juice
And also current jelly
Chrysanthemums
And Damson Plums
And Roses sweet and smelly.
Etc.

If the members will pay attention, they can see how I am working in all the names of nursery stuff so the customers will know the kind of merchandise we are in shape to put out.

Some of the members is going to hang back on account of nobody ever heard of where they are at. They figure they aint going to get in on the gravy because their town aint mentioned in the program. Here is the way I am going to work around that objection. Instead of saying on the radio that the customers should write to the Wash. D.C. fund, I am going right out and have them call

on the nursery in their own town. Now here is where the whole trick of the thing comes in on who is going to pay for the radio. If you want your town mentined, all you got to do is send five dollars, and I will work it into the announcement. Most any of the members knows it aint no use to read a long list of towns in the regular way, so I am having it set up in the theme song, altho I aint got the music ready yet. Here it is as follows how the name of your town will be worked in just like it belonged there. We have got to tell the customers where we are from. Of course, this is only a sample, and the members aint going to get their towns in unless they send the five dollars. This aint all of the towns, only a rough idea of how it goes as follows:

From Portland Maine
From old Ft. Wayne
And also Pensacola
From the Everglades
And the great Cascades
And even Mineola.

From Los Angeles
And Milwaukee, Wis.
Including Wauwautosa
Tuxedo Park
And Hot Springs Ark.
And also Oskaloosa

From Philly, Penn.
From Memphis Tenn.
And counting Chattanooga
From old Ft. Worth
And Amboy Perth
And the shores of old Cayuga

From good old Chi.
And the Bronx, N. Y.
And also from Skohegan
From Cleveland O
And old Frisco
And taking in Waukegan

After the first couple of programs people from Sandy Hook to Cape Cod will be calling up to ask how come you aint on the program and you will be embarrassed if the name of Valley City, N. Dak., or wherever you are at aint mentioned. Its a sure fire scheme to get the members in with their five bucks.

Some of the members will think I am beating around the bush with the preliminaries only and I aint got no ideas for the meat of the program but that is where you are off your nut, or maybe it would be more appropriate to say you are mistaken as this is a business deal and not no bar room conversation.

Now to get down to the drama. The first scene is with Roundhouse Rudy hollering down the shaft at the salt mine where little Julius is a prisoner at the bottom of the shaft and Roundhouse Rudy is letting the water run into the shaft where Julius is at the bottom and he cant get out for love or money.

You have got to have suspence in a radio program. Right away everybody will be on the edges of their seats wondering if little Julius will get out of the shaft at the mine.

Roundhouse Rudy is hollering down at little Julius. He says, "You cad you will tell me where your old

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man hid the deed to his ranch or I will drown you like a rat in salt water." Just as he is turning on the water there is a loud noise and a horse comes clumping up with a rider aboard with a long beard which is only a false beard because it is really Cedric Throckmorton the detective which is on the lookout for Rudy on account of a bank robbery at Shreveport.

The next scene is a sheep herders cabin on the outskirts of Providence, R.I. Little Julius, the sheep herders son, is chained to a cot with a logging chain and Roundhouse Rudy is standing over him with a branding iron. "You better tell me with dispatch you rat, where the deed to your old gents ranch is at, or else I will brand you right on your left flank with this here branding iron with the cross stitch design."

Note: John Bushbottom was in to our place just as I was going to send in this drama so I give it to John to read over. He says to me, "Charlie, how does it come that there is a branding iron on a sheep ranch, if you knew anything about a ranch you dont put a brand on a sheep otherwise the wool would catch fire and then you would be in a hell of a shape." Branding irons he says is only for cows and mules. I says thats where I got you John. I says this here was a mule ranch before it was reduced down to a sheep ranch so they had the branding iron left over and that shut John up. End of note.

Lets see where was I at. Oh yes. There was little Julius there on the cot with the logging chain and crying like anything with the big brute Roundhouse Rudy standing over him waving the branding iron. Just as he is trying to make up his mind if the branding iron is warmed thru good there is a clatter on the front porch which turns out to be a nursery salesman with a complete line of shrubs, roses, vines, small fruits, perennials, evergreens, bulbs, shade trees, garden furniture and prepared fertilizer (this is a little long but I know some of the members will be sore if their specialty aint mentioned so it will have to stand that way). He picks up his brass bound plate book and crowns Roundhouse Rudy with a crushing blow from his powerful arms.

Note: This is another place where John Bushbottom checked me up. Charlie, he says, last weeks episode wound up with little Julius down in the salt mine and now how did he get out and wind up at his old gents sheep ranch in R.I. Well, John, I says, you have got to leave a few things to the imagination of the radio

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<i>soulangeana nigra</i>	3.50	32.50
<i>Picea pungens moerhousii</i>	3.50	32.50
<i>Pinus cembra</i>	3.00	27.50
<i>Quercus robur fastigiata</i>	4.00	37.50
<i>Thuja occidentalis douglasii</i>		
<i>spiralis</i>	2.50	22.50
<i>occidentalis elegantissima</i>	2.50	22.50
<i>occidentalis lutea Geo. Peabody</i>	2.50	22.50
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<i>occidentalis wariana (sibirica)</i>	2.50	22.50
<i>orientalis aurea nana</i>	2.25	20.00
<i>orientalis conspicua</i>	2.25	20.00
<i>orientalis elegantissima</i>	2.25	20.00
<i>Taxus media brownii</i>	3.00	27.50
<i>media hatfieldii</i>	3.00	27.50
<i>Thuja canadensis pendula</i>	3.00	27.50
<i>Viburnum burkwoodii</i>	3.00	27.50

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public, to coin a phrase, and furthermore they cant remember from one week to the next. Can you remember what happened to the Lone Ranger or Superman last week, John, and he didnt say nothing, so I say there you are, John, that proves it. End of note.

But to get back to the drama. Little Julius was an observing little rascal and he seen thru the disguise of the nursery agent right away. "Oh Cedric Throckmorton the great detective," he yelled, "you have saved my life."

Now listen, members, this here is just a taste of what the Series of the Adventures of Little Julius could run into. Lets hear your comments and remember this aint no scheme just to get a percent.

I asked Emil what he thought of it and I aint sure yet if he is in favor of it or not. All he said was, "Well Ill be damned."

Yours truly, Charlie Chestnut.

RIVALS COLCHICINE.

The drug sanguinarine may prove a rival to colchicine, the chemical that has stirred scientific interest and popular curiosity by its effects in modifying plant inheritance. Treating seeds or seedlings with colchicine has caused a doubling of the chromosomes in some cases, thus creating new, and sometimes superior, strains. Thomas M. Little, of the United States Department of Agriculture, recently reported similar results from preliminary experiments with a weak solution of sanguinarine applied to snapdragons. In this limited test the new treatment caused even more plant modifications than a parallel application of colchicine and was somewhat less injurious to the treated plant material.

Colchicine is extracted from the juices of the plant colchicum, or meadow saffron. Sanguinarine gets its name from *Sanguinaria canadensis*, the scientific name of the common eastern wild flower called bloodroot because its juice is blood-red. Indians used the juice as medicine, and it is now sometimes used in cough medicines and in treatment of certain skin diseases. The drug is known chemically as an alkaloid and is somewhat poisonous, though not so much so as colchicine and strychnine. Dr. Glenn A. Greathouse, of the department, found extremely weak solutions of sanguinarine effective in preventing the growth of the destructive root rot fungus, and his experiments led Dr. Little to the successful treatment of snapdragons for modification of their inheritance.

This Business of Ours

Reflections on the Progress and Problems of Nurserymen

By Ernest Hemming

BUYING HABITS.

One of the most peculiar habits of customers is their inertia in adopting new plants and discarding inferior types and varieties. Dr. David Fairchild mentioned in his book, "The World Was My Garden," the difficulties he had in obtaining any universal introduction of new fruits and vegetables to general table use. In fact, in a number of cases, even though the qualities were obvious, there seemed little inclination by the general public to adopt their use.

The same seems to be true in the introduction and use of new ornamentals to the garden. Like most nurserymen who are more or less plant enthusiasts at heart, we have become a bit too enthusiastic about certain plants that are obviously good. Yet customers coming to the nursery do not ask for them and when they see them ignore them, but when these plants are used in a landscape arrangement properly placed the patrons seem pleased with them. This is true both of plants that are entirely new to our horticulture and of native plants of obvious worth, but not usually used, such as certain oaks.

The opposite seems true of overpublicized worthless types and varieties or ones that have outlived their usefulness but which the customers continue to buy. To mention just a couple, the Kieffer pear and *Catalpa bungei* have died a slow death.

It is perhaps this inertia that accounts for the characteristic attractiveness of the modern seed catalogue, a method of advertising that is now being used extensively with patented roses.

It is well, therefore, to keep these customer habits in mind, for improvements and innovations must be publicized.

E. S. H.

BULBS.

This short article is not meant to be in any way derogatory to an interesting and important branch of our industry, but rather to illustrate how ethereal our markets can be.

About six years ago, in order to take every opportunity our market offered, we started to sell spring-flowering bulbs in conjunction with our regular business. Because we do not have an urban market, we merely took orders and then ordered the bulbs from an importer. The business was rather small potatoes, but since all orders tend to keep things moving we considered it worth while. The last autumn before the war we purchased bulbs to the amount of \$700 wholesale. The following autumn, because of the cut in imports, we ordered a volume of about half the previous year's at the beginning of the season. Much to our chagrin, the demand dropped so quickly that we had some of these left over. After that we didn't bother with bulbs except for orders given directly by old customers, and our business quickly diminished to the sale of a few daffodils.

Just recently I noticed a report in the trade papers that the big urban

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Gleditsia Inermis, 6 to 8 ft.; 2½-in.
Bolleana Poplar, 1½ to 3-in.
Sorbus Aucuparia,
8 to 10 ft.; 10 to 12 ft.
Tilia Americana,
8 to 10 ft., up to 3-in.
Tilia Vulgaris, 8 to 10 ft., up to 2-in.
Ulmus Americana, 1½ to 3-in.
Prunus Padus, 5 to 6 ft.; 6 to 7 ft.
Corylus Americana,
4 to 5 ft.; 5 to 6 ft.
Cotoneaster Divaricata,
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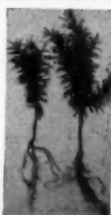
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seed houses are complaining of bulbs left on hand. There surely are not anywhere near the imports or production of prewar days, yet the demand seems already to have dropped to meet the supply. Customers seem almost to take for granted they cannot obtain bulbs.

It will undoubtedly take years to build up this market again. In this example is a bit of a lesson to all of us, that our hold on any market is very tenuous and that our other markets can go as easily. E. S. H.

PIERIS FLORIBUNDA.

Pieris floribunda, the mountain andromeda, is a slow-growing dense shrub, with spreading, somewhat erect branches and dark, dull green leaves about one and one-half to two and one-half inches long. A native of the territory from Virginia to Georgia, it reaches a height of six feet or better at maturity in its native habitat. In cultivation it is slow-growing and makes a low shrub of two to four feet in height.

Few shrubs are more attractive in bloom than the mountain andromeda. An abundance of white flowers resembling those of the lily of the valley are produced in April and May in upright clusters. The individual flowers are attractively nodding. During a prolonged cold spring, the small greenish-white flower buds remain attractive for a considerable time without expanding into an open flower.

Cultural requirements of *Pieris floribunda* do not differ greatly from those of rhododendrons and other ericaceous plants. It prefers a moist but well drained, acid soil and partial shade. Some trouble has been experienced in its blighting and dying after transplanting. The exact cause of this trouble is not known, and until more information is at hand it is advised that the plant be handled as carefully as possible in transplanting and that the plant be used in as near to ideal conditions as possible. It is hardy, but is best if not given full wind exposure.

Propagation is by seeds, best started in plots in a greenhouse. Plants can also be propagated by cuttings.

The mountain andromeda is used as a small specimen plant or in groups in the foundation planting, border or rock garden. L. C. C.

THE property of the King-Carter Nursery, at 403 West South street, Mason, Mich., has been leased by John Carroll, local schoolteacher of agriculture.

SEEDS

Prices f. o. b. New York.

	¼ lb.	1 lb.
<i>Acacia baileyana</i>	\$1.00	\$ 3.50
<i>Acacia melanoxylon</i>	1.25	4.50
<i>Acacia saligna</i>	1.25	4.25
<i>Acer glabrum</i> .....	.70	2.50
<i>Acer negundo</i> .....	.50	1.75
<i>Acer spicatum</i>	1.00	3.50
<i>Albizia lophantha</i> .....	.90	3.25
<i>Amelanchier alnifolia</i> , d.b. ....	.40	1.45
<i>Amelanchier stolonifera</i> , d.b. ....	.90	3.25
<i>Arbutus unedo</i> , c.s., per oz., 50c		
<i>Arctostaphylos glauca</i> , d.b. ....	.50	1.80
<i>Berberis thunbergii</i> , d.b. ....	.25	.70
<i>Betula papyrifera</i> , c.s. ....	.65	2.25
<i>Betula pendula</i> (alba), c.s. ....	.70	2.50
<i>Calycanthus floridus</i> , c.s. ....	.90	1.75
<i>Caragana pygmaea</i> , c.s., per oz., \$1.50		
<i>Casuarina cunninghamiana</i> , per oz., 85c	3.00	.....
<i>Celastrus scandens</i> , c.s. ....	.80	2.75
<i>Celtis occidentalis</i> , d.b. ....	.35	.90
<i>Cerastonia siliqua</i> , c.s. ....	.65	2.25
<i>Chaenomeles lagenaria rubra</i> , c.s.	1.40	5.00
<i>Chamaecyparis lawsoniana</i>	1.00	3.50
<i>Chamaecyparis humilis</i> .....	.65	2.25
<i>Chionanthus virginicus</i> , c.s. ....	.50	1.85
<i>Cladrastis lutea</i> , c.s. ....	.65	2.10
<i>Cornus alba sibirica</i> , c.s. ....	.65	2.25
<i>Cornus alternifolia</i> , d.b. ....	.60	2.10
<i>Cornus florida</i> , d.b. ....	.25	.85
<i>Cornus florida rubra</i> , d.b. ....	.35	1.10
<i>Cornus mas</i> , c.s. ....	.70	2.50
<i>Cornus rugosa</i> , c.s. ....	.60	2.10
<i>Cornus stolonifera flaviramea</i> .....	.65	2.25
<i>Cunninghamia lanceolata</i> .....	.90	3.25
<i>Cupressus arizonica</i>	1.00	3.50
<i>Cupressus goveniana</i>	1.25	4.50
<i>Cytisus scoparius</i> .....	.85	3.00
<i>Eriobotrya japonica</i> , c.s. ....	.45	1.50
<i>Eucalyptus globulus</i>	3.05	11.00
<i>Eucalyptus multiflora</i> (robusta) ..	1.55	5.50
<i>Eucalyptus viminalis</i>	2.50	9.00
<i>Euonymus atropurpureus</i> , d.b. ....	.50	1.75
<i>Euonymus yedoensis</i> , d.b.	1.00	3.50
<i>Fagus grandifolia</i> .....	.50	1.75
<i>Gardenia thunbergia</i> , 100 seeds, \$2.50		
<i>Gaultheria shallon</i> , d.b., per oz., \$1.25		
<i>Holodiscus discolor</i>	1.65	6.00
<i>Jascania acutifolia</i>		
(ovalifolia), 1000 seeds, \$1.50		
<i>Juniperus communis</i> , c.s.		
per oz., 45c	1.60	6.00
<i>Juniperus communis depressa</i> , c.s.		
per oz., 50c	1.75	.....
<i>Juniperus pachyphloea</i> , c.s.		
per oz., 50c	1.75	.....
<i>Liriodendron tulipifera</i> .....	.25	.85
<i>Lonicera morrowii</i> , yellow, c.s.	1.40	5.00
<i>Lonicera tatarica</i> , c.s.	1.25	4.50
<i>Magnolia fraseri</i> , c.s.	1.55	5.50
<i>Magnolia virginiana</i> (glauca), c.s. ....	.65	2.25
<i>Mahonia nervosa</i> , d.b.	1.25	4.50
<i>Morus rubra</i> , c.s. ....	.90	3.25
<i>Myrica cerifera</i> , d.b. ....	.70	2.45
<i>Osmanthus cerasiformis</i>	1.85	6.50
<i>Ostrya virginiana</i> , d.b.80	2.75
<i>Phoenix dactylifera</i>	1.65	6.00
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(Black Hills White Spruce)	2.25	8.50
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<i>Pinus mugo mughus</i>	2.65	9.50
<i>Pinus ponderosa</i>85	3.00
<i>Pinus resinosa</i>	2.30	8.50
<i>Pinus rigida</i>65	2.25
<i>Pinus strobus</i>65	2.25
<i>Pinus sylvestris</i>	2.50	9.00
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<i>Prunus Hansen Bush Cherry</i> , c.s.70	2.50
<i>Prunus mahaleb</i> , c.s.40	1.30
<i>Prunus serotina</i> , c.s.40	1.40
<i>Prunus virginiana</i> , c.s. ....	.50	1.75
<i>Ribes lobbi</i> , c.s., per oz., \$1.50		
.....	.25	.75
<i>Sambucus canadensis</i> , c.s. ....	.55	1.90
<i>Sambucus racemosa</i> , d.b. ....	.65	2.25
<i>Schinus molle</i> .....	.60	2.10
<i>Schinus terebinthifolia</i>	1.45	5.25
<i>Sequoia gigantea</i>	2.75	10.00
<i>Shepherdia canadensis</i> , d.b.	1.35	.....
<i>Spiraea douglasii</i> , c.s., per oz., \$3.25		
.....	2.00	.....
<i>Thuja orientalis aurea</i>	1.95	3.75
<i>Thuja orientalis aurea conspicua</i> ..	1.00	3.00
<i>Thuja orientalis aurea nana</i>	1.95	3.75
<i>Taxa canadensis</i>	1.90	6.25
<i>Tsuga caroliniana</i>	1.95	7.00
<i>Ulex europaeus</i>	1.10	4.00
<i>Vaccinium angustifolium</i>		
(pensylvanicum), d.b.90	3.25
<i>Viburnum alnifolium</i> , c.s., per oz., 55c		
<i>Viburnum cassinoides</i> , c.s., per oz., 80c		
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HERBST BROTHERS

92 WARREN STREET NEW YORK, N. Y.

Pink Flowers for Small Rock Garden

By C. W. Wood

Although the little liver balsam, *Erinus alpinus*, is highly spoken of by most writers on alpine plants, it seems to have fallen on evil days in this country, perhaps because we do not take into account its southern (European) home and treat it accordingly. We are cautioned on every hand that it is not very hardy, but that term is only relative, for I find it reliable here where snow comes early and stays late. Without going into minute details, a brief recital of our way of handling the plant may contain suggestions for others. We give it full sun or light shade where the soil is well drained and allow nature to take care of it until snow leaves in spring. Then it is given a light covering of excelsior, lightly weighted down with branches, to protect the tender foliage and flower buds from late frosts. Where a covering of snow is not assured, the same kind of protection, not enough to bog down and rot the plant but enough to keep the foliage from being seared, would probably answer the same purpose. I have seen it used in perpendicular crevices with good results. *Alpinus* is quite variable as to color, ranging from the pink of variety *roseus* through the carmine-rose of the ordinary form to the scarlets and reds of some named forms. Although it is so easily grown from seeds that that form of propagation is generally used, named forms and those of specially attractive flower color should be grown from divisions.

If propagating stocks were readily available, several heron's-bills of surpassing beauty could be included in our present enumeration. But most of them are not regularly listed in this country, either in seeds or plants, and are consequently not available even to the best searchers. Generally speaking, it is safe to say that an erodium wants sunshine and an alkaline soil, though a few, like the indestructible *E. manescavi*, will go ahead in almost any soil or situation. It is generally recommended that they be grown from seeds, which would no doubt be good advice if seeds were plentiful, but none of the kinds that I have grown produces seeds freely in this climate. As a consequence, I have had to rely on cuttings and find that an admirable way to increase stock. Although it may not be the best way, I get best results by rubbing off new growths with a piece

of crown attached, in early spring, and rooting them in sand in a propagating bench, preferably with a little bottom heat.

If *E. chamaedryoides roseum* were hardy here, which it unquestionably is not, it would be my favorite of the available kinds. Where it is hardy (I should not expect it to be in many localities north of the Ohio), it should attract customers as few other small plants are capable of. That is true not only because of the beauty of its pink salvers on 2-inch stems, over tufts of pretty glossy leaves, but perhaps more so because of a summer-long period of production. Although we of the north cannot enjoy the preceding without a lot of bother, we have a worthy substitute in *E. macradenum*. It, too, has a long blooming season, as have many erodiums, and although it is not so floriferous as the former, one can expect some color (pink with deeper veins and a black blotch at the center) from June until frost. It is taller (up to eight inches as it grows here) and the tufts, made up of pale green, ferny leaves, are more ample. Although from Spain, it has proved to be quite hardy here, doing well at the base of a south wall. It is also at home in a wall that is not too dry.

Instead of the dozen or more pink-flowered geraniums that we should have, not more than two or three are available in this country at present, so far as I know. It is true that one or two small stocks of the best, *G. argenteum*, appear in retail lists,

but there is probably not enough for rapid multiplication. Fortunately, however, there seem to be ample stocks of what we know as *G. sanguineum lancastriense* (renamed *prostratum* by botanists), a lovely creature in its flat mats of dark green, over which shine large salvers of blush-pink throughout most of the summer, the entire plant being not over two or three inches tall. Fortunately, too, for our purpose, the plant does well in full sun or part shade and in ordinary garden soil. If our selections were not prescribed by the term "small rock garden," *G. endressii*, an 18-inch beauty with soft rose flowers over most of the summer, would find a place here, for I find that seeds are available. As matters stand, however, the foregoing will have to suffice for the geranium entry.

Everything considered, I believe the selection of baby's breaths for the present purpose can be restricted to two kinds, *Gypsophila Fratensis* and *G. repens rosea*. There are several other kinds, to be sure, such as the rare and lovely *G. aretioides*, which is a little too difficult to trust in the hands of the casual gardener, and the new hybrid, *Rosy Veil*, which is too large, but the two first mentioned so fully fill the requirements that fur-

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ther inquiries need not be made. I am of the opinion that *G. repens rosea* is not appreciated at its true worth. It is a fact, of course, that it varies some from seeds, making it necessary for one to flower the plants before selling them, to make sure of the color, but it is so easily managed, possessing all the commendable traits of type *repens*, that a good pink form is really valuable. There is no denying the fact, however, that *G. Fraten-sis* is the treasure among small pink-flowered baby's breaths, easy, willing, beautiful. Its flat mats of glaucous leaves are ornamental in themselves, and its generous display of clear pink flowers throughout May and June make it one of the most attractive small things in the garden at that time. Both may be grown from seeds, of course, or they may also be reproduced from cuttings.

Although *helianthemums*, or sun roses, get rather large for small rock gardens, they may be kept within bounds by hard pruning. Many gardeners, perhaps most, do not realize that fact; so one will have to show his customers by example or by the printed word or illustration that it can be done. I have a notion that many gardeners who admire the cheerful ways of the clan, when it is given a warm soil in sunshine, would be more enthusiastic about these plants if they realized they could keep them from getting scraggly merely by shearing them back as soon as the flowering season passes. Growers in the north probably do not have to be reminded that sun roses are rather tender to cold, especially cold winds when the sun is shining, as are so many broad-leaved evergreens; they should consequently be given sheltered situations and, if the climate is severe, the protection given other plants of their class. The species, if wanted, is easily grown from seeds, but named varieties must be reproduced vegetatively, preferably from cuttings of new growths, taken with a heel, in summer. Here we winter newly rooted cuttings in a protected frame during their first winter—a little extra work which pays ample rewards. The loveliest of pink-flowered kinds that I know is *Wendels Rose*, a lovely plant with its bright pink flowers over gray foliage. Unfortunately, it is not hardy here; so we put our dependence in *H. rhodanthum carneum*, which has large pale pink flowers and silvered foliage. It, too, needs some protection, but has proved hardier than the other.

Most champions are rather large for small plantings; some are quite bothersome by reason of self-sowing, but *Lychnis alpina* is neither, as it behaves here. Some may take exception

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to that statement, because it is a fact that seedlings will appear, though seldom in larger numbers than one wants to see. Despite its near approach to magenta, the color is pleasing to most gardeners, and the easy disposition of the plant endears it to all gardeners who have not the time to look after delicate creatures. Set it down in almost any soil in sun or light shade and it will begin to produce a pleasing rosette of shining deep green leaves, from which will spring 3-inch stems bearing rosy-pink flowers in early spring. It may be grown from seeds.

Unless the garden is quite small, *Phlox amoena* would surely find a welcome; even if space were limited, its cheerful explosions of rose-pink flowers, usually in early May here, would entitle it to consideration. It is not its height of six or eight inches which makes it suspect in the small garden; rather it is the ample fountains of foliage which it produces in a short time. That can be largely overcome, however, by frequent division, which also improves the size of flower, for it soon exhausts the fertility from our light soil and taking up the plants to be divided gives one a chance to renew the soil. It is easily grown in any well drained soil in sun. Propagation is by division or from cuttings. I like to take the latter in September here, rooting them in light soil in a frame, where they remain until lining-out time the following spring.

Most of the moss phloxes, *P. subulata*, are too invasive for small areas. Two exceptions which come to mind are *Leuchtstern* and *Vivid*, both small enough after several years' growth to fit themselves into small pockets and both beautiful enough to be included in any company. When catalogues speak of both as salmon-rose or salmon-pink, they are not far from the facts, yet there is nothing in either plant to remind one of the other. *Leuchtstern* makes a compact mound or ball of foliage, while *Vivid* grows more like a tiny shrub. And the deep rosy center of *Vivid's* flowers sets it quite apart from the other. Propagation is like that of the first phlox mentioned, with emphasis on cuttings in the case of *Vivid*, because its habit of growth precludes rapid propagation from divisions.

Practically every gardener that comes to the nursery or buys by mail wants at least one primula. It matters not that the soil is unsuited to the culture of most kinds or that the gardener is unsuited by temperament to their handling. In self-defense, then, one has to have a few primula plants

(I am speaking now of the average nursery catering to the average gardener). In my own case, I have generally used *P. cortusoides* or *P. sieboldi*, both good plants of fairly easy culture in cool situations which do not get desert dry. For the present purpose, the first of these, a 6-inch to 8-inch plant, with magenta-pink flowers in early spring, is perhaps to be preferred because of its easygoing temperament and small size of plant. The other, *P. sieboldi*, is, however, my choice, especially because of its much larger flowers and also for a wider color range. In the present case, one would have to select pink shades (it varies from white through shades of pink to rosy-purple in the usual lot of seeds) and propagate them from divisions. Both species are easily grown from fresh seeds planted in autumn or early spring.

I should include two sedums, *S. sieboldi* and *S. tartarinowi*, in my list of pink flowers for the small rock garden, the first most assuredly in any case, for it never becomes too large for the smallest planting, and the other in all cases where a plant of its size could be accommodated. The latter, being known to all growers, needs no description. I do not often see *S. tartarinowi* in either gardens or nurseries and so conclude that it is not known to many. That is not as it should be in a country where every worthy plant suited to our harsh climate is needed. This little stonecrop fills these requirements, being small enough in its 4-inch stature, restrained enough in its nonspreading growth and sufficiently amiable under the most trying conditions to suit the most critical. And its pretty pinkish flowers in dense heads in summer would be ample reward for growing it in any case. Propagation is from cuttings in spring.

SCOTT'S ADDRESS.

[Continued from page 13.]

It is to the pioneer nurseryman in every community of our nation that we are indebted for the introduction of practically all of our flowers, fruits, ornamental shrubs and trees. These items were among the stabilizing factors in every community from the Atlantic to the Pacific. It was the flowers, the fruits and the shelter of the trees that kept up the morale and the determination of the pioneers to make our nation "the Land of the Free and the Home of the Brave."

Have you ever observed that during neighborly visits among elderly people they invariably recount the pleasant features of their childhood homes? These features, almost without an exception, include an orchard or at the least a fruit tree or two, the flower garden that mother took such pride in caring for, or the shade tree with the swing in it. These features that developed such a cherished memory for the homes of yesterday are just as important for the morale of the homes of today and of tomorrow as they were in pioneer days.

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10,000 small clumps, L. O.	5.00
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contribution to helping win the war. Most of us are too old to serve on the battle fronts. We have spent a lifetime growing plants, shrubs and trees that are a necessity to the happiness and welfare of our homes and our nation, and we must not fail to deliver our products in the time of need. In other words, I am a nurseryman and I must serve my country in that capacity, and I am going to do so with all my strength and all my ability.

There are many lonely homes in our midst today. Father and mother, brother or sister may need something aside from their daily routine to relieve their loneliness. Planting some flowers, shrubs or trees and caring for them may prove to be a source of great satisfaction to them. They will want information regarding what to plant, when and where to plant and how to care for materials after they are planted to insure success. All of these seemingly childish questions to us nurserymen are matters of grave concern to our customers. We must consider ourselves in the light of a professional (and I dislike the use of this word; it sounds cold and harsh) and advise them to the best of our ability. If by following our advice, the plants grow successfully and produce the desired results, we shall have made a lifetime friend and customer.

Many changes are taking place from day to day in every walk of life. As nurserymen, we may expect changes from our former or accustomed methods of procedure. We may have to develop a service department to the point that it dominates our business. Again I will say, "He who serves best will serve the longest." Each of us must fit our practices to the demands of the day.

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6 to 9 ins., S.	.90	7.50	
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15 to 18 ins., S.	\$0.50	5.00	25.00
9 to 12 ins., Tr.	.60	4.00	
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4 to 6 ins., S.	\$ 1.25	\$10.00
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1-yr., S., No. 1	\$ 1.25	\$10.00
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By Leo R. Tebon

FLOURS AND CASEIN IMPROVE SPRAY ACTION.

The necessity for adding spreaders and stickers to spray applied to plants for the purpose of controlling diseases and insects has been recognized for a long time. These materials were for many years regarded as distinct. When it was necessary to induce a spray to spread out on the foliage, a spreader was added, and when it was necessary to get better adherence of the spray to the foliage, a sticker was added. The practice of adding these materials, technically called spray adjuvants, became so general and suitable materials became so well known that one hardly needs to mention fish oil and soap or the sulphonated oils, sulphite liquors, resins and mineral oils that still are generally used in spraying practice.

In recent years, however, there has been growing a tendency to add supplemental materials that act as both spreaders and stickers. For the most part these double-purpose adjuvants are of animal or vegetable origin. They owe their effectiveness to their ability to act physically as spreaders and at the same time to form gelatinous precipitates that function as stickers. The commonest of them now in use are powdered skim milk, casein and various flours, especially wheat and soybean flour.

Although originally these spray supplements were resorted to in order to solve the purely physical problem of making sprays spread out upon and stick to foliage, beneficial results obtained from sprays containing them often exceeded expectations. Double-purpose supplements, particularly, seem to give better disease and insect control than could normally be expected from sprays alone. To explain why these better results are obtained, and at the same time to gain a further insight into the puzzling problem of how sprays work, Dr. A. A. Nikitin and Dr. E. G. Anderson, Copperhill, Tenn., undertook a technical study of the effect of some of these supplements on a typical mild copper-containing spray.

They found that several of the characteristics of copper sprays were improved by every one of the double-

purpose supplements they used. First, the amount of copper deposited on the sprayed surface was considerably greater when the spray contained a supplemental material than when no such material was added. Second, with a supplemental material added, the spray residue adhered better to the sprayed surface and was more resistant to the washing action of artificial rain in the laboratory and to rain and weather in the orchard. Third, the solubility of the copper contained in the spray residue was increased in the presence of a supplemental material. And fourth, the quantity of soluble copper retained on the sprayed surface was increased. All of these characteristics—deposition of copper when the plant is sprayed, adherence of spray residue in spite of rain and weather, evolution of free soluble copper and retention of this soluble copper on the plant—are principal factors upon which the effectiveness of such a spray as Bordeaux mixture depends. Enhancing any one then adds to the efficiency of a spray, and a substance that enhances all of them, when added to a spray, materially increases the potential value of the spray.

The ability of double-purpose adjuvants to increase the efficiency of sprays seems to result from the fact that protein makes up a large part of their bulk. The protein they contain acts on the fixed copper of the spray in such a way as to set it free in greater quantity. Then the

protein enters into a union with the free copper, forming what chemists call a sorption complex. This complex at first retains the free copper in a gelatinous cover on the sprayed surface and later delivers it again as free soluble copper. Thus protein increases the value of a spray both by making it more adhesive and by more highly activating the copper it contains.

It would seem, therefore, that the greater the amount of protein a spray supplement contains, the better would be the characteristics of a spray to which it was added. And this appears, indeed, to be borne out in the results obtained by Dr. Nikitin and Dr. Anderson with the materials they tested. Of their materials, soybean flour had the highest protein content, about fifty-three per cent, and calcium caseinate was next with forty-two per cent. In order, then, came skim milk powder with thirty-six per cent protein, high protein wheat flour with about seventeen per cent and low protein wheat flour with nearly nine per cent.

On each of the spray characteristics mentioned above, soybean flour had a highly beneficial effect. Under orchard conditions it increased the original deposit of copper on sprayed

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3 to 6 ins., \$7.50 per 100;	\$60.00		
per 1000			
6 to 8 ins., \$10.00 per 100;	\$85.00		
per 1000			

WELLER NURSERIES CO., Inc.
Holland, Mich.

Ask for our Perennial Catalogue.

VIBURNUM CARLESI

Own-root Stock.

No understocks to sprout. More bloom. More graceful habit of growth than grafted plants.

	Each
4-yr., 30 to 36 ins.	\$2.00
4-yr., 24 to 30 ins.	1.30
3-yr., 18 to 24 ins.	.85
3-yr., 15 to 18 ins.	.65
2-yr., 12 to 15 ins.	.50
2-yr., 3 1/2-in. pots	.35
Balling extra.	

CHASE NURSERY CO.
Chase, Ala.



GROW XMAS OR FOREST TREES

Write Today for Special
Christmas Tree Bulletin and
Complete Forest Tree Price
List.

	Per 1000
2-yr. American Red Pine.....	\$10.00
2-yr. Austrian Pine.....	15.00
2-yr. Colo. Blue Spruce.....	10.00
2-yr. Scotch Pine.....	15.00

MUSSER FORESTS, Inc.
Indiana, Penna.

EVERGREENS

Fine assortment of the best
types of B&B Evergreens.

HOLTON & HUNKEL CO.

Milwaukee, Wis.

Nursery at Brown Deer, Wis.



Wholesale growers of the best
Ornamental Evergreens,
Deciduous Trees,
Shrubs and Roses.

Write for our current trade list.

THE KALLAY BROTHERS CO.
Painesville, Ohio

LINING-OUT STOCK B & B EVERGREENS

Write for our complete catalogue

T. G. OWEN & SON, INC.
South's Largest Florists and Nurserymen
Columbus, Miss.



EVERGREENS

For Seventy-eight Years
Growers of Quality Evergreens
Lining-out Stock a Specialty
Write for Trade List

EVERGREEN NURSERY CO.
Established 1864 • STURGEON BAY, WIS.

Juniper Glauca Hetzi

Will become a leading Evergreen.
Write us about it.

LINERS, T., 6 to 9 ins.,
\$17.50 per 100; \$160.00 per 1000.

Fairview Evergreen Nurseries
Fairview, Pa.

FOR LANDSCAPE and SALES LOT

Irish, Greek and Pfitzer Junipers;
Globe Arborvitae, Scotch Pine, Spruce,
Hemlock.

Redbud, Dogwood, Chinese Elm, Lom-
bardy Poplar and Assorted Shrubs.

Visit our nursery, 15 miles from Louis-
ville.

NICK'S NURSERY, Anchorage, Kentucky

BURTON'S

HEADQUARTERS FOR
EVERGREEN GRAFTS, TRANSPLANTED
EVERGREENS, SHRUB LINERS.
RARE ITEMS YOU DO NOT
FIND IN MOST LISTS! Write!

HILLTOP NURSERIES
EASTOWN, OHIO

leaves from the nearly seven mil-
ligrams per hundred square inches
left by the plain spray to over ten
milligrams, in one year, and from
about eleven milligrams to nearly
twenty-one milligrams in another
year. In the same two years it also
increased the residual copper from
about three milligrams to nearly
seven and from about six milligrams
to nearly fifteen. It also greatly in-
creased the solubility of copper,
standing in this respect next to cal-
cium caseinate, and combined into
a sorption complex the greatest rela-
tive amount of free copper while
at the same time giving it off more
slowly during rainfall.

Hence it can be understood why
soybean flour has come to be so
popular as a spray supplement during
the past three to four years. Also,
it becomes clear that, when plant
pathologists now recommend such
spray adjuvants as casein and soy-
bean flour in place of the old soaps
and oils, they do so because these
new materials influence the chemical
as well as the physical properties
of sprays and thereby actually pro-
duce more effective sprays.

L. R. T.

ARTIFICIAL MANURE.

"Preparation and Use of Artificial
Manures," by Karol J. Kucinski, bul-
letin 395 of the Massachusetts agri-
cultural experiment station, is of
timely helpfulness. In its twelve
pages are described experiments in
which artificial manure was prepared
from corn stover, mixed deciduous
leaves, oat straw and mixed leaves
and garbage, in order to study the
method of preparation, rate of decom-
position, heat and moisture relation-
ships and volume and appearance of
the finished product. Chemical analy-
ses were made of the various products
and they were used in both pot and
field experiments.

Both chemical and vegetation tests
showed that when cyanamide or am-
monium sulphate was used in the
preparation of manure from corn
stover, oat straw or leaves and gar-
bage, a finished product resembling
well rotted farmyard manure was ob-
tained. Leaves used alone decomposed
to form artificial manure slowly, while
corn stover decomposed most rapidly.

Field tests showed that artificial
manure can be used satisfactorily in
growing corn, and hay yields were
increased considerably where it was
applied.

Detailed general directions are
given for both small-scale and large-
scale preparation of artificial manure.

JEWELL Ornamental and Tree Seedlings

Per 100 Per 1000

Birch, American White.		
12 to 18 ins.	\$1.50	\$15.00
18 to 24 ins.	2.50	20.00
2 to 3 ft.	3.50	30.00
3 to 4 ft.	5.00	40.00

Birch, Paper or Canoe.		
6 to 12 ins.	2.00	18.00
12 to 18 ins.	2.50	22.00
18 to 24 ins.	3.50	30.00
2 to 3 ft.	5.00	40.00

Box Elder.		
2 to 3 ft.	1.50	12.00
3 to 4 ft.	2.00	16.00
4 to 5 ft.	2.50	20.00

Buckthorn, Cathartica.		
12 to 18 ins.	1.20	10.00
18 to 24 ins.	1.80	15.00
2 to 3 ft.	2.20	18.00

Buckthorn, Frangula.		
12 to 18 ins.	2.00	18.00
18 to 24 ins.	2.50	22.00
2 to 3 ft.	3.50	30.00

Caragana, Arborescens.		
12 to 18 ins.	.80	6.00
18 to 24 ins.	1.20	9.00
2 to 3 ft.	1.50	12.00
3 to 4 ft.	2.00	16.00

Elm, American.		
2 to 3 ft.	1.20	10.00
3 to 4 ft.	1.50	15.00
4 to 5 ft.	3.00	25.00
5 to 6 ft.	5.00	40.00
4 to 5 ft., branched.	7.50	75.00
5 to 6 ft., branched.	12.00	120.00

Elm, Chinese.		
2 to 3 ft.	1.20	10.00
3 to 4 ft.	1.50	15.00
4 to 5 ft.	3.00	25.00
5 to 6 ft.	5.00	40.00
4 to 5 ft., branched.	9.00	90.00
5 to 6 ft., branched.	15.00	150.00

Hackberry.		
18 to 24 ins.	2.00	18.00
2 to 3 ft.	2.50	22.00
3 to 4 ft.	3.50	30.00

Horsechestnut (Ohio Buckeye).		
6 to 12 ins.	1.50	12.00
12 to 18 ins.	2.00	16.00
18 to 24 ins.	2.00	25.00
2 to 3 ft.	6.00	60.00

Locust, Honey.		
18 to 24 ins.	1.50	12.00
2 to 3 ft.	2.50	20.00
3 to 4 ft.	3.50	30.00

Maple, Ginnala.		
2 to 3 ft.	2.50	20.00
3 to 4 ft.	3.50	30.00
4 to 5 ft.	5.00	40.00
4 to 5 ft., branched.	9.00	90.00

Maple, Silver.		
2 to 3 ft.	1.50	12.00
3 to 4 ft.	2.20	18.00
4 to 5 ft.	3.00	25.00
5 to 6 ft.	5.00	40.00
4 to 5 ft., branched.	7.50	75.00
5 to 6 ft., branched.	12.00	120.00

Mountain Ash, European.		
6 to 12 ins.	1.80	15.00
12 to 18 ins.	2.50	20.00
18 to 24 ins.	3.50	30.00
2 to 3 ft.	5.00	40.00

Mulberry, Russian.		
18 to 24 ins.	1.50	12.00
2 to 3 ft.	1.80	15.00
3 to 4 ft.	2.50	20.00
4 to 5 ft.	4.00	40.00

Russian Olive.		
18 to 24 ins.	2.50	20.00
2 to 3 ft.	3.50	30.00
3 to 4 ft., branched.	8.00	80.00
4 to 5 ft., branched.	12.00	120.00

Thorn, Crataegus (Mollis and Punctata).		
12 to 18 ins.	2.50	20.00
18 to 24 ins.	3.00	25.00
2 to 3 ft.	5.00	40.00
3 to 4 ft.	7.50	75.00

All the above listed liners are in stor-
age in quantity and can be shipped on
short notice.

JEWELL NURSERIES, INC.
Lake City, Minnesota

Coming Events

ON THE CALENDAR.

January 20 and 21, Oklahoma Nurserymen's Association, Huckins hotel, Oklahoma City.

January 21, Connecticut Nurserymen's Association, Hartford.

January 21 and 22, Ohio Nurserymen's Association, Deshler Wallick hotel, Columbus, following short course at Ohio State University, January 19 and 20.

January 25, Kentucky Nurserymen's Association, Lafayette hotel, Lexington.

January 26, Indiana Nurserymen's Association, Antlers hotel, Indianapolis, following short course January 25 at same place.

January 26, Indiana Association of Nurserymen, Antlers hotel, Indianapolis.

January 27, Oregon Association of Nurserymen, Heathman hotel, Portland.

January 27, New Jersey Association of Nurserymen, Hotel Hildebrecht, Trenton.

January 27 and 28, Michigan Association of Nurserymen, Hayes hotel, Jackson.

February 2 to 4, New England Nurserymen's Association, Hotel Kimball, Springfield, Mass.

February 9 and 10, Pennsylvania Nurserymen's Association, including A. A. N. eastern regional meeting, Philadelphia.

February 11 and 12, Wisconsin Nurserymen's Association, Schroeder hotel, Milwaukee.

February 12 and 13, Iowa Nurserymen's Association, Kirkwood hotel, Des Moines.

February 16, Western Pennsylvania Nurserymen's Association, Hotel Webster Hall, Pittsburgh.

CONNECTICUT PROGRAM.

The thirty-sixth annual meeting of the Connecticut Nurserymen's Association will be held at the Hotel Heublein, Hartford, Conn., January 21, beginning at 10 a. m.

Richard P. White, A. A. N. executive secretary, will be present to give vital information on current trade problems affected by governmental regulations. There will be a discussion on the growing of food crops, with the director of food conservation, H. D. Mosle.

JOINT NEW YORK MEETING.

The winter meeting of the Allied Retail Nurserymen's Association will be held jointly with that of the Long Island Nurserymen's Association, January 20, at the Pennsylvania hotel, New York City.

In the morning each organization will hold its separate business meeting and election of officers. In the afternoon, at a joint session, Captain Lowe and Lieutenant Roberts, of the United States district engineers office, will discuss nurserymen's part in the camouflage program. Richard P. White, A. A. N.

executive secretary, will give information about governmental matters affecting the industry. Dinner will be provided in the evening.

IOWA DATES SET.

The winter meeting of the Iowa Nurserymen's Association has been set for February 12 and 13, at the Kirkwood hotel, Des Moines, announces D. C. Snyder, president. This will make it possible for Richard P. White, A. A. N. executive secretary, to attend the meeting when he makes a trip westward to appear at the meeting of the Wisconsin Nurserymen's Association earlier in the week.

MEET AT PITTSBURGH.

The Western Pennsylvania Nurserymen's Association has elected the following as officers and directors for 1943: President, Roy M. Breidenbach, Busch Nurseries, Allison Park; vice-president, Herbert S. Hoechstetter, Hoechstetter's Nursery, Verona; secretary, Louis E. Wissenbach, Squirrel Hill Nursery, Pittsburgh; treasurer, Charles S. Zimmerman, I. W. Scott Co., Pittsburgh; directors, Stanley W. Leonard, Leonard & Leonard, Pittsburgh; John M. Eisler, Butler, and Walter P. Morrow, Sewickley.

The winter meeting is scheduled for February 16, at Hotel Webster Hall, Pittsburgh.

EASTERN ASSN. DATE SET.

The annual meeting of the Eastern Association of Nurserymen will be a short luncheon affair at the Hotel Hildebrecht, Trenton, N. J., on the same day as the New Jersey association meeting, January 27, states Russell Harmon, secretary. The program will include a few short reports and decision how to carry through this war emergency.

LINING-OUT STOCK

2-yr. old—Strong Seedlings

VIBURNUMS COTONEASTERS

Lentago
Molle
Opulus

Acutifolia
Divaricata

ARONIA BRILLIANTISSIMA

Write for Prices

HINSDALE NURSERIES, Inc.

Hinsdale, Illinois

INDIANA PROGRAM.

The annual meeting of the Indiana Nurserymen's Association will be held at the Antlers hotel, Indianapolis, January 26, following a one-day short course by the staff of the horticulture department at Purdue University, at the same place, January 25.

Following is the program for the two-day convention, at the Hotel Antlers, 750 North Meridian street, Indianapolis, morning and afternoon sessions being held each day:

MONDAY, JANUARY 25.

"Comparison of Own-rooted and Stem-builder Stocks," by Prof. J. A. McClintock, Purdue University.

"Insects and Diseases." Round-table discussion, led by Dr. C. T. Gregory, Purdue University, and Frank N. Wallace, state entomologist.

"What Makes a Soil Fertile?" by Dr. G. D. Scarsoth, Purdue University.

"Rural Outlets for the Nurseryman's Products," by Prof. R. B. Hull, Purdue University.

TUESDAY, JANUARY 26.

President's address, by M. B. Esterline, New Augusta.

"Cooperation among Competitors," by E. C. Grande, Indianapolis.

"Suggested Aids to Nurserymen," by Frank N. Wallace and Paul Ullman.

"Looking Ahead," by F. R. Kilner, editor, American Nurseryman, Chicago.

Question box, conducted by Ollie Hobbs, Bridgeport.

Business session.

PROVING that Henry Dybvig, Colton, S. D., comes from a long-lived family, his parents celebrated their sixtieth anniversary December 28.

SAVE MONEY

on

NORWAY SPRUCE LINERS

Per 1000

6 to 8 ins., x.....	\$ 30.00
8 to 12 ins., x.....	40.00
12 to 15 ins., x.....	50.00
8 to 12 ins., xx light.....	70.00
12 to 15 ins., xx light.....	95.00
12 to 18 ins., xxx heavy.....	200.00
18 to 24 ins., xxx heavy.....	250.00
10 per cent discount for cash with order.	

Packed free.

Write for general list.

SCOTCH GROVE NURSERY

Scotch Grove, Iowa

MYROBALAN SEED

LOVELL PEACH PITS

Nation's Leading Source

Write today for quotations.


California
NURSERY COMPANY
Niles, California

ALPINE CURRANT HEDGE

We are pleased to offer our usual heavy strain of Alpine Currant. Our plants are well branched right to the ground line and are ideal for either hedges or shrub plantings.

NEW REDUCED PRICES

	Per 100	Per 1000
12 to 24 ins.....	\$21.00	\$175.00
24 to 30 ins.....	28.00	260.00
30 to 36 ins.....	30.00	250.00

In Storage. Can ship anytime.

SHERMAN NURSERY CO.
Charles City, Iowa

Red Raspberry Plants
New Red Rhubarb
MacDonald—Canada Red
Americana Plum Stocks
Northern Apple Stocks
Deciduous and Evergreen
Lining-Out Stock
General Assortment of Stock

ANDREWS NURSERY
Faribault, Minn.

NORTHERN-GROWN NURSERY STOCK

Evergreen Liners—Specimen Evergreens, B&B—Hardy Fruit Trees—Hardy Apple Seedlings—Ornamental Shrubs—Lining-out Shrubs, Trees and Vines. Write for price list.

J. V. BAILEY NURSERIES
Daytons Bluff Sta. St. Paul, Minn.

COLORADO-GROWN CHINESE ELMS

Specimen Trees, light grades and seedlings

ENGLISH ELM (*Ulmus Campestris*)
Now booking orders in combination cars to central and eastern points.
SWINK NURSERY COMPANY
Swink, Colorado.

SMALL FRUIT PLANTS

Evergreens—Shrubs
Lining-out Stock

Send for Complete Trade List

W. N. SCARFF'S SONS
New Carlisle, O.

FRUIT TREES—GRAPES—PECANS—FIGS

Good line of most Fruits and Shrubs
We invite your inquiries.

COMMERCIAL NURSERY CO.
Decherd, Tenn.

TSUGA CANADENSIS

50,000 Hemlock, blocky transplants.
10 to 15 ins., \$80.00 per 1000.
4,000 Juniperus Prairieana
24 to 42 ins., \$1.25 to \$2.00 each.
1,000 Colorado Blue Spruce.
8 to 5 ft., \$1.50 to \$2.50 each.

HOME NURSERY CO., Fort Gay, W. Va.

REAL PROFITS
SELLING BETTER LAWNS
Sell the seed that makes sturdy, enduring, beautiful lawns. Use our service to secure special mixtures for your locality.
F. H. WOODRUFF & Sons, Inc.
Toledo, O. Milford, Conn.

OBITUARY.

William Koethe.

William Koethe, one of the proprietors of the Northwood Nurseries, died at his home, near Coon Valley, Wis., December 26, at the age of 70 years.

Thirty-eight years ago, Mr. Koethe joined his two brothers in founding a nursery business. One brother died in 1932. Thereafter the two remaining brothers continued the business. He is survived by one brother, E. Rudolph Koethe, who will continue the business at the same location.

Harold Carver.

Funeral services were held Monday afternoon, January 11, for Harold Carver, of the Lehigh Valley Nurseries, Bethlehem, Pa. This firm is a member of the American Association of Nurserymen and of the Pennsylvania Nurserymen's Association, and W. C. Carver is the president of the latter organization.

SOUTHWESTERN NEWS.

H. Gestafeld, formerly of Alamosa, Colo., has started the El Pueblo Nursery, at 110 Kenwood drive, Pueblo, Colo.

C. L. Calkins is the new nursery inspector for the southern half of Kansas, taking the place of Inspector Liston, who is now ranching in Texas.

Mr. and Mrs. John Sarber, of the Sarber Nurseries, Topeka, Kan., spent the Christmas holidays with relatives at St. Louis, Mo.

E. S. Welch, president of the Mount Arbor Nurseries, Shenandoah, Ia., left immediately after Christmas for the west coast, where he is looking after his interests in Washington and California.

W. C. Bruening, of the Bruening Nurseries, Higginsville, Mo., is a second lieutenant in the Army engineers, camouflage division, Washington, D. C.

E. H. Smith, Harrison's Nursery, York, Neb., and Mrs. Smith were at Springfield, Mo., all of December, visiting their daughter. They took in the Western association meeting at Kansas City on their way home.

Joe Weston, son of A. E. Weston, of the Neosho Nurseries, Neosho, Mo., is a lieutenant at Hamilton Field, Cal., in the air service, and his brother, Allan, is a sophomore at West Point.

David Lake, of the Shenandoah Nurseries, Shenandoah, Ia., was at Tyler, Tex., the latter part of December, on business.

CHASE OFFERS

For 1943

Sturdy and pot-bound.

Abelia Edward Goucher, 2 1/4-in. pots, 10c
One of the finest new items in the broad-leaved line. Flowers are large and rich pink. Foliage very glossy. Excellent compact pendulous habit of growth. Hardy as grandiflora.

Euonymus patens, 2 1/4-in. pots, 8c
Ilex crenata rotundifolia, 2 1/4-in. pots, 12c
"Watch Chase's Liners Grow Into Dollars For You."

CHASE NURSERY CO.
Chase, Ala.

WE SPECIALIZE IN THE FOLLOWING:

New Canada Red and Mac Donald Rhubarb

Hardy new fruits of:

Minnesota Fruit Breeding Farm
North & South Dakota stations
Morden, Manitoba, station

The better shrubs and trees, both in transplants and seedling stock

SUMMIT NURSERIES
STILLWATER, MINNESOTA

Send for New Seed List.

A. B. C.

"Supreme" Quality

SEEDS — PLANTS — BULBS
and
Growers' Accessories

AMERICAN BULB CO.

1335 W. Randolph St., CHICAGO
31 W. 27th St., NEW YORK

North Dakota and Montana Seeds

Northern-grown Tree, Shrub and Wild Flower seeds. Wholesale crude botanicals.

E. C. MORAN Stanford, Mont.

APPLE SEEDS

We accumulate several thousand pounds of apple seeds each fall season. Interested in contracts for all or part of our production.

Valley Evaporating Co.
Yakima, Washington

PEACH PITS

Our Pits Compare Favorably
With the Best

HOGANSVILLE NURSERIES
HOGANSVILLE, GEORGIA

MAZZARD and MAHALEB CHERRY SEEDLINGS

Clean, healthy, well rooted stock.
Also grafted and seedling Nut Trees.

J. F. JONES NURSERIES
P. O. Box 356 Lancaster, Pa.

Quarantines Revised

WHITE-FRINGED BEETLE.

Revision of quarantine 72, for the white-fringed beetle, and its regulations has been made principally because of the discovery during the past summer and fall of white-fringed beetle infestations in North Carolina in the vicinity of Wilmington and other places in New Hanover county, in the vicinity of Goldsboro, Wayne county, and in parts of Pender county. The regulated area is extended to include parts of the above counties as well as several areas in Alabama and Mississippi in which infestations of the beetles have been found since the quarantine and regulations were last revised. Brought within the regulated area for the first time are part of Lowndes county, Ala., and part of Jefferson Davis county, Miss. Minor additions to the regulated areas are made in Dallas county, Ala., and Forrest, Harrison, Jackson, Jones, Pearl River and Stone counties, Miss.

All restricted articles are placed under quarantine throughout the year because of seasonal variation in the development of the pests in the different areas, the difference in the life history and habits of the various species and other biological factors. However, the quarantine provides for modification of certification requirements as to articles, seasons or areas through administrative instructions issued from time to time by the chief of the bureau when in his judgment no hazard of dissemination of the beetles is presented by such modification. Articles brought under restriction for the first time in this revision include gravel, moss, and bulbs, corms, tubers and rhizomes of ornamental plants. Peanut shells are no longer restricted by these regulations.

Minor modifications have been made in regulations pertaining to limited permits and to the cleaning of railway cars.

Under the new ruling, certificates may be issued for the interstate movement of soil, sand, gravel, clay, peat or mulch when taken from a depth of at least two feet below the existing surface and when entirely free from any surface soil to a depth of two feet, and also for sand and gravel when washed, processed or otherwise treated to the satisfaction of the inspector.

All certification requirements have been waived for certain articles when free from soil and when sanitation

practices are maintained as prescribed, such as seed cotton, scrap metal and junk, forest products, brick and tile, concrete slabs and pipe, and implements, machinery, equipment and containers. Also included are potatoes, except that those freshly harvested are not exempt; true bulbs, corms, tubers and rhizomes of ornamental plants, except those freshly harvested or uncured, and hay, except peanut hay.

Certification is required for the following articles and materials: All soil, sand, gravel, clay, peat or muck, whether moved independent of, or in connection with, or attached to nursery stock, plants, products, articles or things; compost, manure, moss and leaf mold; nursery stock, grass sod, potatoes, freshly harvested; true bulbs, corms, tubers and rhizomes of ornamental plants, when freshly harvested or uncured; peanuts in the shell, and peanut hay.

ILLINOIS BEETLE BAN.

Because trapping by the federal bureau of entomology and plant quarantine and the Illinois state department of agriculture in the summer of 1942 uncovered infestations of Japanese beetles in Chicago and Highland Park not known to exist before, a hearing on the extension of the state Japanese beetle quarantine to these areas and the inclusion of such areas in Chicago, Evanston, Cicero and Highland Park previously found infested has been called by Howard Leonard, director, Illinois state department of agriculture. This will be held February 4, at Glen Ellyn, Ill., at the office of the division of plant inspection, room 300, Professional Arts building.

It seems necessary by the director of agriculture that the designated areas be included in the quarantine,

A Complete Line of OREGON-GROWN NURSERY STOCK

Norway Maple — Schwedler Maple
Birch — Hawthorn
Flowering Crabs
Flowering Plums
Flowering Cherries
Mountain Ash

DOTY & DOERNER, INC.

6691 S. W. Capitol Highway
PORTLAND, OREGON



We are still in business and we have all varieties of seedlings as well as shade trees that are ready for the market. If in need of anything in our line we will appreciate your business. We know that you will not be disappointed with our stock.

PACIFIC COAST NURSERY

John Holmason, Prop.

2244 N. Skidmore Court
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SHERWOOD NURSERY CO.

EVERGREENS — Propagators & Growers
141 S. E. 95th Avenue PORTLAND, ORE.

Lining out stock and small balled sizes planted now will soon produce fine specimen grades for sale and use during the reconstruction period that will follow the war. Money so invested is certain to bring gratifying results to the buyer.

Write today for 1943 Wholesale Trade List.

(For the Trade Only.)

LINING-OUT STOCK

Our 1943 List of Lining-Out and Planting Sizes of Broad-Leaved and Conifer Evergreens is now ready—

A CARD WILL PUT YOURS
IN THE MAIL

"Our Business Is Growing"

RICHMOND NURSERIES

Richmond Beach, Wash.

OREGON PRIMROSES

Mixed Colors. Polyanthus type.
Field-grown.

Plants, \$2.25 per doz., postpaid
Seeds, \$1.00 for 200

PRIMROSE ACRES
R. 12, Box 456, Milwaukie, Ore.

which forbids the movement in any manner of nursery, ornamental or greenhouse stock or other plants, plant roots or sand, soil, earth, peat, compost or manure from infested regions to any other part of the state. Consideration of the extension of this ruling will be the business of the hearing, at which interested persons may be heard either in person or by attorney.

MEET AT LOS ANGELES.

The Southern California Nurserymen's Association held its first meeting of 1943 at the Royal Palms hotel, Los Angeles, January 12. Two matters received special attention, first, a proposal to modify the restrictions on purchases of materials by nurserymen and, second, an attempt to reverse the recent decision by which nursery labor was placed under the provisions of the unemployment insurance act in California. J. A. Cox, formerly acting as secretary of the association, has gone into defense work and the subject of his successor was considered.

CATALOGUES RECEIVED.

[In writing for a copy of any of the catalogues reviewed below, please mention that you saw it described in the American Nurseryman.]

Mount Arbor Nurseries, Shenandoah, Ia.—Winter trade list, fruit tree stocks, rose stocks, tree seedlings, shrubs, 16 pages, 6x9 inches.

Bristol Nurseries, Inc., Bristol, Conn.—Wholesale list of chrysanthemum rooted cuttings, 4 mimeographed pages, 8½x11 inches.

George J. Ball, Inc., West Chicago, Ill.—Catalogue of seeds for florists including, in addition to a full list of annuals, miscellaneous perennials, vegetable seeds and plant bands; 48 pages and cover, 7½x10½ inches.

Henry A. Dreer, Inc., Philadelphia, Pa.—Catalogue of flower and vegetable seeds, 100 pages and cover, 7x10 inches.

Griffing Nurseries, Beaumont, Tex.—Wholesale catalogue of general nursery stock, 20 pages and cover, 7½x10½ inches.

Welch Nurseries, Shenandoah, Ia.—Retail catalogue of fruits, perennials and shrubs, 32 pages, 6¾x10¼ inches.

Hallawell Seed Co., San Francisco, Cal.—Retail catalogue of flower seeds, trees and shrubs, 96 pages and cover, 7x9½ inches.

Whitten Nurseries, Bridgman, Mich.—Retail catalogue of fruit and nut trees, small fruits, roses, ornamental shrubs and perennials, well illustrated, 48 pages, 8x11 inches.

R. M. Kellogg Co., Three Rivers, Mich.—Catalogue of strawberries and other fruits, illustrated in color, 32 pages, 7¼x10½ inches. Separate catalogue of flowers and shrubs, illustrated in color, 54 pages, 8x11 inches.

Mrs. Neva C. Belew, Camargo, Okla.—Wholesale price list of hardy wild flowers, folder, 3½x9¼ inches.

E. D. Robinson, Wallingford, Conn.—Trade price list of nursery stock, 4 mimeographed sheets, 8½x14 inches.

PORTLAND WHOLESALE NURSERY CO.

306 S. E. 12th AVENUE Avery H. Steinmetz PORTLAND, OREGON

Quality Stock

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EVERGREENS
SHADE AND FLOWERING TREES
FRUIT TREE SEEDLINGS
FRUIT TREES
DECIDUOUS SHRUBS
VINES AND BULBS
PORTLAND ROSES

Business Is Good.

Fall shipping was upset by unfavorable weather, but we are definitely encouraged over prospects for the Spring Season.

We suggest that orders be placed early.

Write for our Catalog

MILTON NURSERY CO.

A. Miller & Sons, Incorporated
MILTON—Since 1878—OREGON

OUR SPECIALTIES

Birches—Flowering Cherries, Crabs and Plums—Chinese Elm—Hawthorns—Lilacs—Lindens—Flowering and Globe Locusts—Columnar, Globe, Norway and Schwedler Maples—Mountain Ash—Oregon Grape—Oriental Plane—Willows.

FRUIT TREE SEEDLINGS

Send us your Want List for Quotations.
Combination carloads to Eastern distributing points at minimum freight cost.

Headquarters for . . .

Fruit and Shade trees with vigorous roots and sturdy stems.
Flowering trees, Weeping trees.
Shrubs, Roses, Small fruits.

Catalogue on request

RICH & SONS NURSERY
Route 4 Hillsboro, Oregon

APPLE SEEDLINGS.

CHINESE ELM SEEDLINGS, 2-yr.

Washington Nurseries
Toppenish, Wash.

Milton Nursery Co., Milton, Ore.—Catalogue of fruit and nut trees, small fruits, roses, hardy ornamental and flowering shrubs, shade and flowering trees, illustrated in color, 32 pages, 6¾x10 inches.

LLOYD POTTENGER, Indianapolis, Ind., has been appointed superintendent of city parks under the new Republican city administration.

A. MCGILL & SON

FAIRVIEW, OREGON

Wholesale Only

**GOOD WESTERN-GROWN
NURSERY STOCK**

Fruit Tree Seedlings
Flowering Ornamental Trees
Shade Trees
Roses

Grown right and packed right.

Combination carloads to Eastern distributing points will save you on freight.

**OREGON'S
BEST SOURCE OF
GOOD ROSES**

is

PETERSON & DERING, INC.

Wholesale Rose Growers
Scappoose, Oregon
1943 List Now Ready.

LEADING GROWERS of

CUTLEAF WEEPING BIRCH,
Schwedler and Norway Maple,
Fine 2 and 3-year stock,
Also Hawthorn, Crab, Flowering Cherry and Pink-flowering Locust.

Ask for Price List.

MOTZ BROS. NURSERIES
P. O. BOX 42, OREGON, ORE.

California Field-grown

ROSEBUSHES

Dependable

Howard Rose Co.
HEMET, CALIFORNIA



NEW RASPBERRY MILTON.

A new variety of red raspberry originated at the New York state experiment station, Geneva, from a cross between Lloyd George and Newburgh has been named Milton. The new berry is being introduced this fall by the New York State Fruit Testing Association, Geneva, which at present is the only source of planting stock.

"The plants of Milton are vigorous, sucker freely and appear to bear as good crops as other standard varieties, but comparative yield records have not been taken," says Prof. G. L. Slate, station small fruit specialist, who continues, "The canes are sturdy and need no support to bear the crop. Winter injury of the canes has been slight at Geneva and not serious in a test planting in the Hudson valley. In this test planting established at Milton in 1934 primarily to determine the susceptibility to mosaic of many varieties and unnamed selections, Milton remained free from mosaic during the seven years the test was continued, although many of the other varieties and selections were completely infected by the end of the second growing season."

The berries of Milton are large and resemble those of Taylor in size and shape. They are attractive, bright red in color, firm, not crum-

bling, mild subacid in flavor and of good quality, being equal or superior to Taylor in that respect. Milton is a late variety, ripening two or three days later than Taylor or Latham. Milton compares favorably with other red raspberry varieties deemed suitable for freezing.

"Milton is being introduced as a probably mosaic-free late variety for trial for commercial planting and home use," says Professor Slate, adding, "It appears to be superior to Taylor and Latham in not taking mosaic and is harder than Marcy. It should be tested in a limited way until its merits have been determined in comparison with other standard varieties."

JUNK FOR SCRAP PILE.

Study of the following lists of items desired in the scrap drive may remind nurserymen of articles they have overlooked in making their contributions to this war effort.

METAL.		Rubber Nipples
Metal Beds, Springs	Old Irons	Rubber Floor Mats
Old Wood Stove or	Coalstove	Rubber Sponges
Skid Chains	Old Bathtubs	Rubber Aprons
Lawn Mower	Old Metal Refrigerator	Rubber Garters
Old Radiator	Old Washing Machine	Rubber Toys
Old Kitchen Sink	Old Ash Cans	Rubber Shower Curtains
Old Sewing Machines	Old Pails	Old Rubber Washers
Old Pipe	Farm, Garden, Auto	Rubber Corks
Tools	Old Boiler	Rubber-covered Wires
Old Furnace	Old Metal Toys, Skates	Rubber Seat Pads
Old Metal Fence	Old Wire	Rubber Sole, Heels
Old Pots, Pans	Old Scissors, Shears	Rubber Raincoats
Old Auto Parts, Tools	Old Electric Motors	Rubber Combs
Old Electric Fans	Old Wash Tubs	Rubber Bands
Old Metal Cabinets	Old Jar Tops	Pencil Erasers
Old Farm Equipment	Old Screens	Old Garden Hose
Old Clocks	Old Batteries	Hot-water Bottles
Old Lighting Fixtures	Old Furnace Grates	Rubber Swim Suits
Lamp Bulbs	Old Fireplace Equipment	Rubber Bathing Caps
Old Metal Golf Clubs	Metal Plant Stands	Rubber Mattresses
Old Washboards	Old Metal Hangers	Rubber Sheets
		Old Tennis Shoes
		Rubber Bath Mats
		Old Jar Rings
RUBBER.		FABRICS.
Girdles	Shower Caps	Old Vegetable Sacks
Rubber Gloves	Old Tires, Tubes	Cotton Underwear
Old Bicycle Tires	Old Rubber Boots	Wool Underwear
Old Galoshes, Rubbers	Rubber Baby Pants	Old Sheets
Rubber Plug Stoppers		Old Pillowcases
		Old Bedspreads
		Old Towels
		Old Washcloths
		Old Handkerchiefs
		Old Tablecloths
		Old Men's Shirts
		Old Cotton Dresses
		Old Cotton Curtains
		Old Wool Dresses
		Old Suits
		Old Coats
		Dustcloths
		Draperies
		HEMP.
		Old Rope
		Old Clothline
		Old Curtain Cords
		Old Light Cords
		Old Hemp Rugs
		Old Car Seat Covers
		Old Burlap Bags

WANT ADS

Help and Situation Wanted and For Sale advertisements.

\$2.25 per inch, each insertion.

SITUATION WANTED

With reputable firm in middle west. Ten years' experience designing, selling and supervising nursery and landscape work. Interested in plant life. Not afraid of work. Can meet public. Age 45, married, 3A classification. References. Address No. 256, American Nurseryman, 508 S. Dearborn St., Chicago.

SITUATION WANTED

Landscape Superintendent, with gang experienced men, specializing planting defense housing projects, will consider contracting labor for this type work in southern states during winter months. Also equipped to handle large sodding contracts. Address No. 254, American Nurseryman, 508 S. Dearborn St., Chicago.

HELP WANTED

Propagator, experienced in growing apple seedlings, evergreens, shrubs and perennials in greenhouse; also growing apple seedlings, shrubs and climbing roses in hotbeds; some knowledge of landscaping required; draft exempt. MALONEY BROS. NURSERY CO., INC., Dansville, N. Y.

HELP WANTED

Grower with propagating experience to take full charge of well located nursery. If you can prove satisfactory, will give one-half interest. House furnished. Address No. 257, American Nurseryman, 508 S. Dearborn St., Chicago.

HELP WANTED

Capable man with nursery experience in propagating, selling and management, for good opening with modern landscape and nursery firm. State qualifications fully and salary desired. Address No. 255, American Nurseryman, 508 S. Dearborn St., Chicago.

HELP WANTED

Nursery Foreman — Experienced in handling seeds and general propagation; capable to supervise nursery developments, improvements and assume general management of modest but growing nursery. Must be of good repute and a willing worker. A good and permanent proposition for the right man. State experience and salary wanted in first letter, also age, size of family and selective service classification.

THE CLASSEN COMPANY
301 Terminal Bldg., Oklahoma City, Okla.

FOR RENT

Established retail and wholesale nursery outlet with all facilities. Chicago and suburbs. Cash, commission or consignment basis.

SCHIELD'S
Growers of Creeping Bent Grass
R. R. 1, Box 458
Norwood Park, Chicago, Ill.

FOR SALE

Opportunity for a nurseryman and future security. Have small nursery business, pretty fair annual sales, 13-acre Orchard, 10 years old. Four-room modern house, 26 acres land, on main highway 4 1/2 miles west of Coffeyville, Kan. Will sell for \$5000.00 or lease to experienced nurseryman on shares. State experience. Frank R. Clark, owner, Coffeyville Nursery, P. O. Box 277, Coffeyville, Kan.

DOW

METHYL BROMIDE

An Effective Fumigant for Nursery and Greenhouse Plants

THE DOW CHEMICAL COMPANY
MIDLAND, MICHIGAN

New York • Chicago • St. Louis

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★ Buy... WAR BONDS ★
and STAMPS

★ FELINS TYING MACHINE COMPANY ★
MILWAUKEE, WISCONSIN

KILLING CHOKECHERRIES.

The destruction of all chokecherries within 500 feet of peach trees is the only effective means of protecting peaches against losses from the so-called "X" disease. Methods of destroying the chokecherry depend on their location. Where the land is open and can be kept cultivated, clean cultivation alone will keep the plants under control. The chokecherry, however, is likely to be found along fence rows, stone walls and in rocky places where thorough cultivation is impractical. Cutting or burning the plants is an unwise procedure, because the plants have exceedingly vigorous root systems.

In general, the use of an herbicidal spray will give the best results. The leaves absorb the toxic salts of the sprays, which are then carried to the roots, and all the plant slowly dies. One thorough application of a good herbicide made in midsummer will usually give a ninety-five per cent kill of the plants. Sodium chlorate or ammonium sulphamate used at the rate of three-fourths pound per gallon of water has given the best results. Care must be exercised in using sodium chlorate, as it is injurious to livestock if taken in large quantities and material sprayed with it becomes very inflammable. Ammonium sulphamate, on the other hand, is not toxic to animals and retards fire. Both are sold under certain wartime restrictions, however.

The use of either sodium chlorate or ammonium sulphamate at the rate of three-quarters pound of salt to a gallon of water makes an expensive spray, but not too expensive when it is considered that only one thorough application is needed. When the shrubs range up to a height of about four feet, one gallon of the spray mixture will cover an area of about ten feet square, or 100 square feet. Taller shrubs will require additional spray up to two gallons for the same area. Cutting off the tops of chokecherry plants so as to get succulent new growth for spraying and with the idea of reducing the quantity of spray needed is not a good practice, because these herbicides appear to work more effectively on woody than on succulent growth. It seems that succulent growth is killed too fast for the chemical to penetrate in any quantity.

LAST month the American Chemical Paint Co., Ambler, Pa., began the publication of a bulletin, Hormone-Tones, to tell dealers more about the growth-stimulating substances offered by the company.

CLASSIFIED ADS

Five lines, \$1.00,
each additional line, 20 cents,
per insertion.

Let these little liners move
your stock easily and cheaply.

Peonies: Tree and Herbaceous, best varieties.
Oberlin Peony Gardens, Sinking Spring, Pa.

PFITZER JUNIPER, l.o., 15 to 18 ins., 3-yr.,
from nursery rows, 35c; 19 to 24 ins., finished
B&B, \$1.00.

NICK'S NURSERY, Anchorage, Ky.

50,000 4-yr. EVERGREEN TRANSPLANTS,
2 1/2 c to 5c each, less 20 per cent in lots of 250.
Scarce varieties included. List on request.
BRADEN NURSERY, South Windham, Maine.

SEEDS

Canadian Hemlock Tree Seeds, \$4.50 per lb.;
White Pine, \$1.50; Choke Cherries, d.b., \$1.00;
Ilex Verticillata, d.b., \$1.00. Prepaid.
N. S. HAYDEN, Gorham, Me.

EVERGREEN TREE SEEDS

Minnesota White Pine (Strobilus), \$1.00 per lb.
Minnesota Norway Pine (Resinosa), \$4.85 per lb.
New crop now ready. List Free.
AYRES EVERGREEN NURSERY, Aitkin, Minn.

Early-bearing bred-up budded and grafted
Papershell Pecan trees, Peaches, Pears, Figs,
Grapes, Plums, Apples, Strawberries, Younger-
ries, Boysenberries. New crop Pecan nuts. Cata-
logue free. Bass Pecan Co., Lumberton, Miss.

UNDERSTOCKS

Understock of Rhododendron Ponticum, Juniper
Virginiana, Norway Spruce, American Arborvitae,
Retinospora, Japan Maple. Write for Prices.
RHODE ISLAND NURSERIES,
Newport, R. I.

25,000 Sycamore Trees, Shrubs, 10,000 lbs. 1942
crop seeds: Kentucky Coffee tree beans, per lb.,
35c; Osage Orange, 50c; Sycamore Platanus, 30c;
Ailanthus, 40c; Regels and Amur River North
Privet, 60c; Catalpa, 50c. 100,000 8-in. cuttings.
SCHROEDER NURSERY CO., Granite City, Ill.

BOXWOOD Suffruticosa, Ligustrum Lucidum,
Elaeagnus, Nandina, American and Chinese Holly,
Pyracantha, Pfitzer, Jasmine Nudiflorum and
Floridum. Write for special prices in large
quantities.
BOXWOOD NURSERIES, Mocksville, N. C.

MULTIFLORA ROSE SEED, fresh picked, extra
nice. We have a few hundred pounds to spare.
Thorny and Thornless. Cash with order. Fresh
hips, 5 lbs., \$2.00; 50 lbs., \$15.00; 100 lbs. and up,
\$25.00. F.O.B. here. Order soon.

Send for trade list of lining-out stock.

ATLANTIC NURSERIES, INC., Berlin, Md.

CALIFORNIA PRIVET, heavy 2-yr., cut back,
northern-grown, 3 to 4-ft. and 2 to 3-ft. grades at
exceptionally low prices, to make room in our
storage. Tell us how many and grade you desire.
We'll surprise you on price.

C. R. BURR & CO., INC.,

Dept. A, Manchester, Conn.

Azaleas, Camellias, Gardenias, Nandinas, Li-
gustrums, Junipers, Thuyas and many other items
in lining-out and specimen sizes. Send for our
list in color of highest-quality stock grown in this
section.

BLACKWELL NURSERIES, INC.,
Semmes, Alabama.

EVERGREEN SEEDLINGS

2-yr. Scotch Pine, Douglas Fir, Glauca, Colo.
Blue Spruce, \$10.00 per 1000. 3-yr. Douglas Fir,
Glauca, \$15.00 per 1000. 3-yr. American Arbor-
vitae, \$20.00 per 1000. Write for wholesale price
list.

SUNCREST EVERGREEN NURSERIES,
Johnstown, Pa.

EXCELLENT STOCK for Spring delivery. 25
per cent will hold year order. Per 10: Mountain
Ash, 5 to 6 ft., \$3.50; 6 to 8 ft., \$4.50; White
Ash, 5 to 6 ft., \$2.50; 6 to 8 ft., \$3.50; White
Birch, 5 to 6 ft., \$4.50; 6 to 8 ft., \$5.50; Norway
Spruce, 18 to 24 ins., xx, \$3.50; 2 to 3 ft., xx,
\$4.50. Packing at cost. We grow a complete line
of ornamental and shade trees and shrubs.
PEQUOT NURSERY, Pequot Lakes, Minn.

GOLD COIN VALUES!

Asias Mollis and Altaclarensis.
9 to 12 ins., liberal grade, well budded and full
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free. Not balled, 10 per cent discount. Cash with
order, please. Ask for quotations on larger sizes
and 3 to 4 and 4 to 5-ft. specimens; also light un-
balled mail-order grades from extended plantings.
RICHARD F. RESSLER, Mullino, Ore.

5,000 Grapevines, 6 varieties, \$3.00 per 100.
5,000 Spiraea Vanhouttei, 2 to 3 ft., \$3.00 per
100; 3 to 4 ft., \$10.00 per 100.
HOME NURSERY CO., Fort Gay, W. Va.

ROSA MULTIFLORA JAPONICA.

Seedlings and cuttings.
Seedlings straight shanked, strong rooted,
well graded.
Cuttings well rooted, de-eyed and graded same
as seedlings.
Seedlings, 3 to 4 mm. and 4 to 6 mm.
Cuttings, 3 to 4 mm. and 4 to 6 mm.
Low prices on reasonable quantities. Supply
limited this year. Order now for later delivery
and avoid disappointment.

C. R. BURR & CO., INC.,

Dept. A, Manchester, Conn.

LINERS FOR SPRING PLANTING

Per 100
Andorra Juniper, 6 to 8 ins. \$6.00
Ashford Juniper, 8 to 12 ins. 7.50
English Juniper, 8 to 12 ins. 5.00
Greek Juniper, 6 to 8 ins. 6.00
Irish Juniper (Fastigiata), 8 to 12 ins. 8.00
Horizontal Juniper, 8 to 12 ins. 5.00
Pfitzer Juniper, 12 to 15 ins. 12.50
Polish Juniper, 6 to 8 ins. 7.50
J. Sabina Tamaricifolia, 6 to 8 ins. 7.50
Sabina Juniper, 8 to 12 ins. 7.50
Abelia Grandiflora, 6 to 8 ins. 3.50
BYERS NURSERY COMPANY, Chase, Ala.

ROSEBUSHES

PECAN TREES

Dusted, heavy roses in express or carlot quanti-
ties. Grafted, papershell pecans on unexcelled
root system. Wholesale catalogue only.

ARP NURSERY CO.

Box 867 Tracy, Cal.

NEMATODE-RESISTANT PEACH SEED.

U.S.D.A. Introductions from India and China.
Shaili and Yunnan 55885 and 55886. Harvesting
now completed and orders being filled.

KIRKMAN NURSERIES,

P. O. Box 800, Tracy, Cal.

SURPLUS LIST, SPRING 1943

5,000 Fir Concolor, 2-yr., 3 to 5 ins., S.
65,000 Fir Douglas, 2-yr., 3 to 6 ins., S.
10,000 Spruce White, 3-yr., 5 to 10 ins., S.
22,500 Spruce Norway, 3-yr., 6 to 12 ins., S.
27,000 Spruce Norway, 4-yr., 8 to 20 ins., S.
Spruce Colorado (hand-picked seeds)
40,000 2-yr., 2 to 4 ins., S.
33,500 3-yr., 4 to 10 ins., S.
21,300 4-yr., 6 to 12 ins., S.
14,000 Pine Mugho, 3-yr., 4 to 8 ins., S.
17,500 Pine Austrian, 2-yr., 3 to 6 ins., S.
50,000 Pine Red, 2-yr., 3 to 5 ins., S.
30,000 Pine Scotch, 2-yr., 3 to 7 ins., S.
6,480 Pine Ponderosa, 2-yr., 3 to 6 ins., S.
5,000 Pine White, 2-yr., 3 to 5 ins., S.
1,250 Pine White, 3-yr., 6 to 12 ins., S.
6,000 Spruce Colo., 4-yr., 5 to 10 ins., T.
5,000 Pine Mugho, 4-yr., 4 to 6 ins., T.
10,000 Pine Mugho, 5-yr., 6 to 10 ins., T.
2,000 Pine Mugho, 6-yr., 8 to 12 ins., T.
500 Taxus Baccata Repandens, 3-yr., 5 to 8
ins., T.
734 Ilex Rotundifolia, 3-yr., 8 to 12 ins., T.
500 Mountain Ash European, 3-yr., 3 to 6 ft., S.
2,000 Pachysandra, 3-in. pots.
Grafts ready May 1
200 Maple Atropurpurea, 2 1/2-in. rose pots
500 Juniper Canari, 2 1/2-in. rose pots
1,000 Juniper Canari, 2 1/2-in. rose pots
1,000 Juniper Glauca, 2 1/2-in. rose pots
500 Spruce Koster, 2 1/2-in. rose pots
500 Spruce Moerheimi, 2 1/2-in. rose pots
Let us quote you on your needs.
Price list on request.

HEASLEY'S NURSERIES

Freeport Rd. Butler, Pa.

SUPPLIES

SCREENED LEAF MOLD,
50c per bushel.
WILDWOOD LEAF MOLD CO.,
Valdosta, Ga.

Genuine Treated

BURLAP SQUARES

in any quantity.

ACORN BAG & BURLAP CO.,

Water and Ash Sts., Richmond, Va.

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A pocket-size 48-page booklet. Very complete but concise information, well illustrated. Helpful in preventing claims for dead stock that cost nurserymen money. Sample, 10c. Write for discounts on quantities.

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ST. JOSEPH, MICHIGAN

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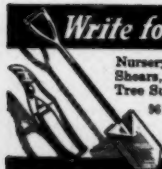
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BENJAMIN CHASE
COMPANY**
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Nursery Spades, Knives and Pruning Shears, Budding and Grafting Supplies, Tree Surgery and Lawn Equipment.

96 page catalogue free—write.

A. M. LEONARD & SON
Piquette, Ohio

BELLADONNA CROP.

Farmers in Wisconsin, Pennsylvania, Ohio, Virginia, Tennessee and several other states are harvesting from 400 to 500 acres of belladonna to replace supplies of this important drug plant formerly imported from central Europe.

Although this is a new crop in this country, the yields are good and the quality is satisfactory. On the average the alkaloid content of the crude drug is almost twice the United States Pharmacopoeia standard. The indications are that supplies will be adequate to meet military and civilian needs, reports the agricultural research administration of the United States Department of Agriculture.

Anticipating a shortage of belladonna, the bureau of plant industry planted all the seeds in its possession in a small plot in 1940 and harvested the seeds. In 1941 these were planted for increase, and seeds from other sources were bought by the department.

Last spring these seeds were distributed to growers in tobacco-producing areas of the states selected so that the barns and other drying equipment could be used for drying the belladonna in the event of a wet season. This precaution proved wise, for the summer was so wet and humid that it was necessary to use the tobacco barns and improvised driers.

Drug plant specialists of the bureau are working closely with the farmers, assisting them in growing, drying and marketing their new crop. They point out that growing drug plants is a highly specialized business that offers little chance of profit to amateurs, and that only a small acreage is needed to supply the nation.

DREER CASE REFERRED.

The petition for reorganization of Henry A. Dreer, Inc., Philadelphia, Pa., has been referred to John M. Hill, special master, for hearing and report. Claims of creditors must be filed by February 2. On that date at 10:30 a. m., he will hold a hearing at his office, room 3036, United States Court-house, Ninth and Chestnut streets, Philadelphia.

THE employees of the Hillsdale Landscape & Nursery Co., Indianapolis, Ind., were recently awarded a Minuteman flag for 100 per cent participation in the war bond purchasing plan. Alex Tuschinsky is head of the firm.

SUPPLIES —TOOLS



**For Tree Surgeons
Landscape Men
Nurserymen - Growers**
Send today for a free copy of the BLUE BOOK
AMERICAN FLORIST SUPPLY
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FRUIT TREE LABEL
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GENUINE MOSS PEAT

Hydraulic pressed bales and smaller resale packages. Sphagnum Moss, Cultivated Peat Humus.

Shipped from Northern plant at Floodwood, Minn., and Hanlontown, Iowa. Annual capacity 1,000 carloads.

Now booking for present and future deliveries.

Write or wire for quotations.

Colby Pioneer Peat Co., Inc.
Hanlontown, Iowa

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THE MOST
COMPLETE LINE OF
TILLAGE EQUIPMENT
IN THE WORLD CAPACITIES 14 IN. TO 7 FT CUTTING WIDTHS

ARIENS CO.
BOX 710 BRILLION, WIS.

NURSERY SQUARES (Imitation Burlap)

Write for prices, samples and other information.

McHUTCHISON & CO.
95 Chambers St., New York, N. Y.

CUT HAND WEEDING COSTS!

Larvacide, and use available labor for other jobs. Fumigate Potting and Seed Flat Soil right in bins, deep frames and compost piles. Controls most weed seeds, nematodes and fungi that cause damping-off. Write

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BETTER BUY YOUR CLOVERSET POTS NOW YOU MAY NOT BE ABLE TO GET THEM LATER

Shortage of supplies, shortage of labor and transportation difficulties may greatly affect our production of Cloverset Pots. Therefore, we caution our customers to get their pots now and be prepared for the biggest cash-and-carry business ever known.

Modernize Your Nursery Sell Your Nursery Stock Planted and Growing In



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Cloverset Pots



Which would you prefer?

Offer your Nursery Stock to your customers planted and growing in Cloverset Pots in Full Foliage and in Full Bloom when it will look more attractive and bring the Most

Money, therefore More Profit

CLOVERSET POTS OFFER YOU THE FOLLOWING ADVANTAGES OVER OLD-FASHIONED CLAY POTS— No loss from breakage. Weight only 1-16th of the weight of same capacity clay pots. Low price, may be given away with the plant. Non-porous, only $\frac{1}{2}$ as much water is required to sufficiently supply the plant. Easy to remove from the plant by the purchaser. Convenient to use by the grower. Practical in shape with 2 times the soil capacity of same sizes clay pot. Wide base prevents falling over in display gardens.

AND GREATEST OF ALL, your stock can be sold and safely transplanted without wilt of foliage or blooms any time from spring till freezing weather. No more expensive dormant plants need be thrown away after the spring planting season is over. If your potted plants are not sold in the spring you can sell them during the following summer and fall, or they can be carried over and be sold the following spring and summer and as they grow and develop in the pots they bring a greater price and profit.

THE POT FULL OF PROFIT

STANDARD HEAVY CLOVERSET POTS

For the nurseryman who maintains a sales yard throughout the entire Spring, Summer and Fall and offers his goods in full foliage and, in season, in full bloom.

F. O. B. KANSAS CITY—Terms Cash

Orders for 300 pots or more take 1000 pot price. Orders for less than 300 pots take 100 pot price.	No.	Height	Diam. Top	Bottom Diam.	Soil Capacity	Corresponding Size Clay Pot	Weight Per 100	Per 100	Per 1000
	0	5 ins.	5 ins.	4 $\frac{1}{2}$ ins.	3 $\frac{1}{2}$ lbs.	6 ins.	35 lbs.	\$2.50	\$22.50
	1	6 $\frac{1}{2}$ ins.	6 ins.	5 $\frac{1}{2}$ ins.	9 lbs.	7 ins.	41 lbs.	4.00	35.00
	2	9 $\frac{1}{2}$ ins.	7 ins.	6 $\frac{1}{2}$ ins.	15 lbs.	8 ins.	77 lbs.	4.50	40.00
	3	9 ins.	8 ins.	7 $\frac{1}{2}$ ins.	20 lbs.	9 ins.	88 lbs.	5.00	45.00

No. 0 FOR PERENNIALS AND FOR GREENHOUSE USE. No. 1 FOR PERENNIALS. No. 2 FOR ROSES AND SHRUBS. No. 3 FOR LARGE SHRUBS AND TRANSPLANTING. CLOVERSET POTS TAKE 3RD CLASS FREIGHT RATE. PACKED 100 IN CARTON READY FOR USE. SAMPLE CARTON SHOWING ALL SIZES WILL BE MAILED ON RECEIPT OF 25 CENTS TO PAY MAILING CHARGES.

SPECIAL LIGHT CLOVERSET POTS

For the nurseryman who maintains a sales yard during only the spring selling season and the fall planting season and who does not maintain his sales yard throughout the hot summer months.

In addition to our regular line, as described above, we make three sizes of our Cloverset Pots out of a lighter material, they being No. 0, No. 1 and No. 2. When pots are wanted for only the spring season's use, we think these light pots, which we call Special Light Cloverset Pots, will

be amply strong enough and durable enough for general purposes. They will be packed 100 in a carton and they weigh just one-third as much as the Standard Cloverset Pot. On these Special Light Cloverset Pots the following prices will be effective.

PRICES ON SPECIAL LIGHT CLOVERSET POTS

No.	Height	Diam. Top	Bottom Diam.	Soil Capacity	Corresponding Size Clay Pot	Weight Per 100	Per 100	Per 1000
0	5 ins.	5 ins.	4 $\frac{1}{2}$ ins.	3 $\frac{1}{2}$ lbs.	6 ins.	15 lbs.	\$2.00	\$18.50
1	6 $\frac{1}{2}$ ins.	6 ins.	5 $\frac{1}{2}$ ins.	9 lbs.	7 ins.	18 lbs.	3.00	27.50
2	9 $\frac{1}{2}$ ins.	7 ins.	6 $\frac{1}{2}$ ins.	15 lbs.	8 ins.	33 lbs.	3.75	35.00

Orders for 300 pots or more take 1000 pot price. Orders for less than 300 pots take 100 pot price.

CLOVERSET POTS WILL HELP YOU GROW BETTER PLANTS

A plant grown in a Cloverset Pot means a better plant, which means a better satisfied customer, which means a larger business, which means more profit. Try Cloverset Pots. We promise you they will not disappoint you.

ERNEST HAYSLER & SON - CLOVERSET FLOWER FARM
105th Street and Broadway, Kansas City, Missouri

LOOKING FORWARD TO 1943



THIS is a good time for nurserymen to take stock of their position and to make their plans for the future. It is easy to become discouraged and to curtail operations, but there are certain fundamental facts of which we are reasonably certain.

History records more than 800 wars. Shall we not survive one more?

Following all wars, business goes on. Some businesses survive; others do not.

Following this war, many new products will be made, but it is reasonably certain **there can be no substitute for trees.**

Following this war, countless homes will be built. American pride in the home is one of the few certainties we can count upon.

Somebody will sell nursery stock to new homeowners.

Those who sell nursery stock following this war will plant lining-out stock now—this spring.

At the **Hill Nursery** we have an ample supply of choice ornamental varieties of Evergreens in sizes for quick turnover and at most attractive prices.

We invite you to contact our representatives at the various Conventions during January, or to let us quote on your needs by mail.

New Price List Now Ready!

D. HILL NURSERY COMPANY
DUNDEE, ILLINOIS